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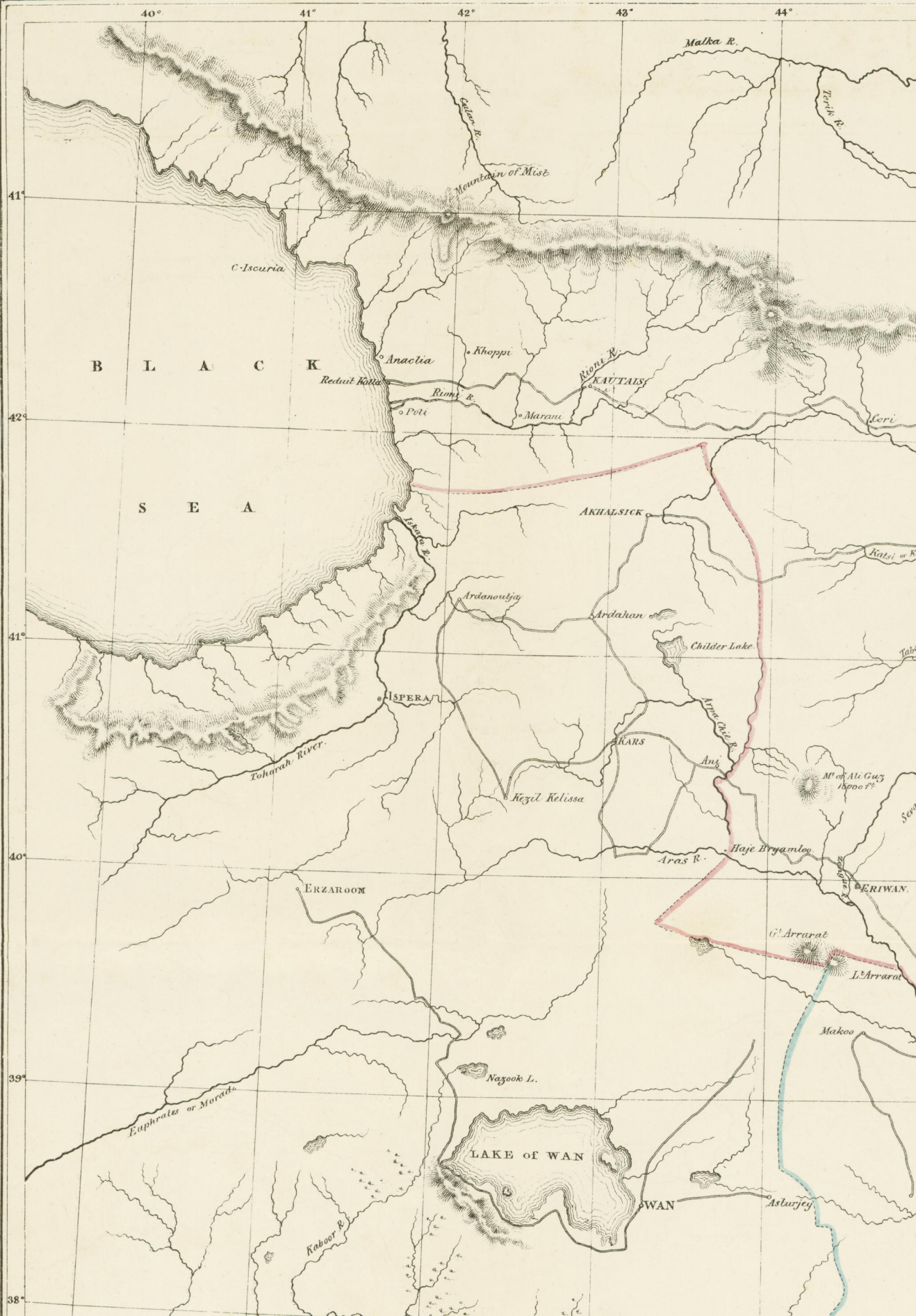
PAPERS READ
BEFORE THE
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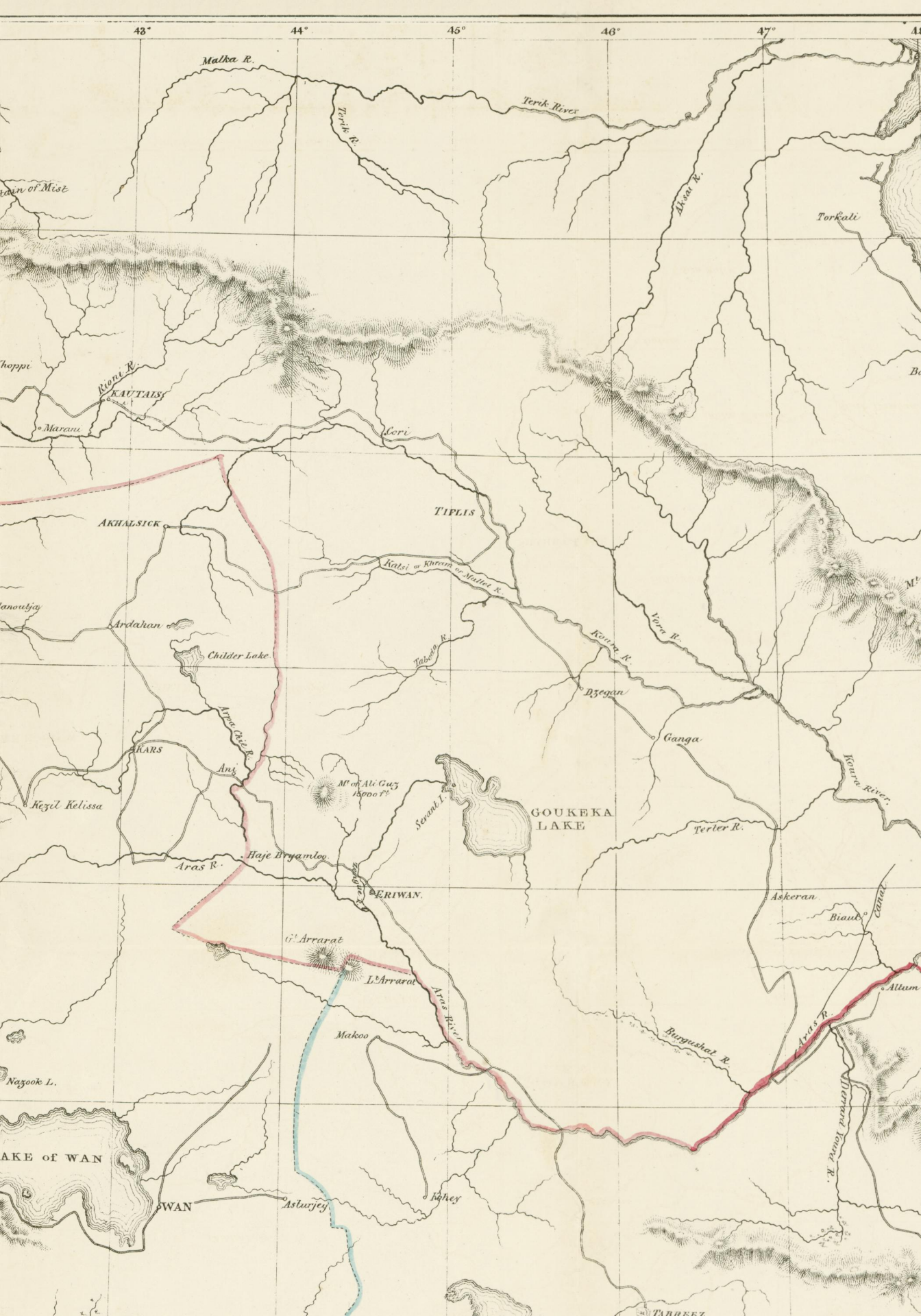
I.—*Journal of a Tour through Azerdbijan and the Shores of the Caspian.* Communicated by Colonel Monteith, E. I. C.
Read 13th February, 1832*.

HAVING been ordered by His Royal Highness Abbas Mirza to visit the whole province of Azerdbijan, immediately under his government, as also the province of Ghilan and the shores of the Caspian, I proceeded, in the first instance, to the summit of the lofty mountains of Sahend, situated between Tabreez and Maraja, in themselves forming a most remarkable geographical feature, standing, as it were, isolated in the very centre of Azerdbijan, and towering to the height of 9000 feet above the level of the sea. From these mountains run the streams supplying Tabreez and its districts, as well as Maraja, with their only good water. I had every facility given me for employing instruments, and remaining what length of time I judged necessary in situations through which travellers have been obliged to pass with great rapidity, as well from the want of supplies as on account of the danger from the Kurdish and other robbers who infest the whole frontier. From Tabreez I proceeded—on the first journey, 10th of August—along the banks of the Bosmitch River, which I was directed to follow to its source, and ascertain if any of the streams which flow from that mass of mountains, Sahend, could be directed into it. For four miles the road lies through a narrow valley, entirely occupied by the suburbs and gardens; the latter are entirely irrigated by canals from the river before mentioned.

The climate here is much cooler than at Tabreez, and there is a difference of fifteen days in the time of the fruit ripening between this and the western side of the town. On the right hand is a low range of clay-slate hills, mixed with gypsum, amongst which some slight traces of coal are visible. On the left hand

* Colonel Monteith having also presented to the Society an original survey of part of Persia and Armenia, which the Council resolved to engrave on a suitable scale, the publication of this Memoir has been postponed till the Map was also ready. It is now on sale with all map-sellers, in four sheets, elephant folio; and a skeleton outline of it, reduced, is here also subjoined.





**PART OF
GEORGIA & ARMENIA**
to illustrate
**Colonel Monteith's
JOURNAL.**

The map shows the Caucasus region with the Black Sea to the west and the Caspian Sea to the east. A red line indicates the route of Colonel Monteith's expedition, starting from the Black Sea coast near Tiflis, passing through the Caucasus mountains, and ending near the Caspian Sea. Key locations marked include Tiflis, Baku, and various mountain passes. The map is titled "PART OF GEORGIA & ARMENIA to illustrate Colonel Monteith's JOURNAL." and includes a scale bar and a compass rose.

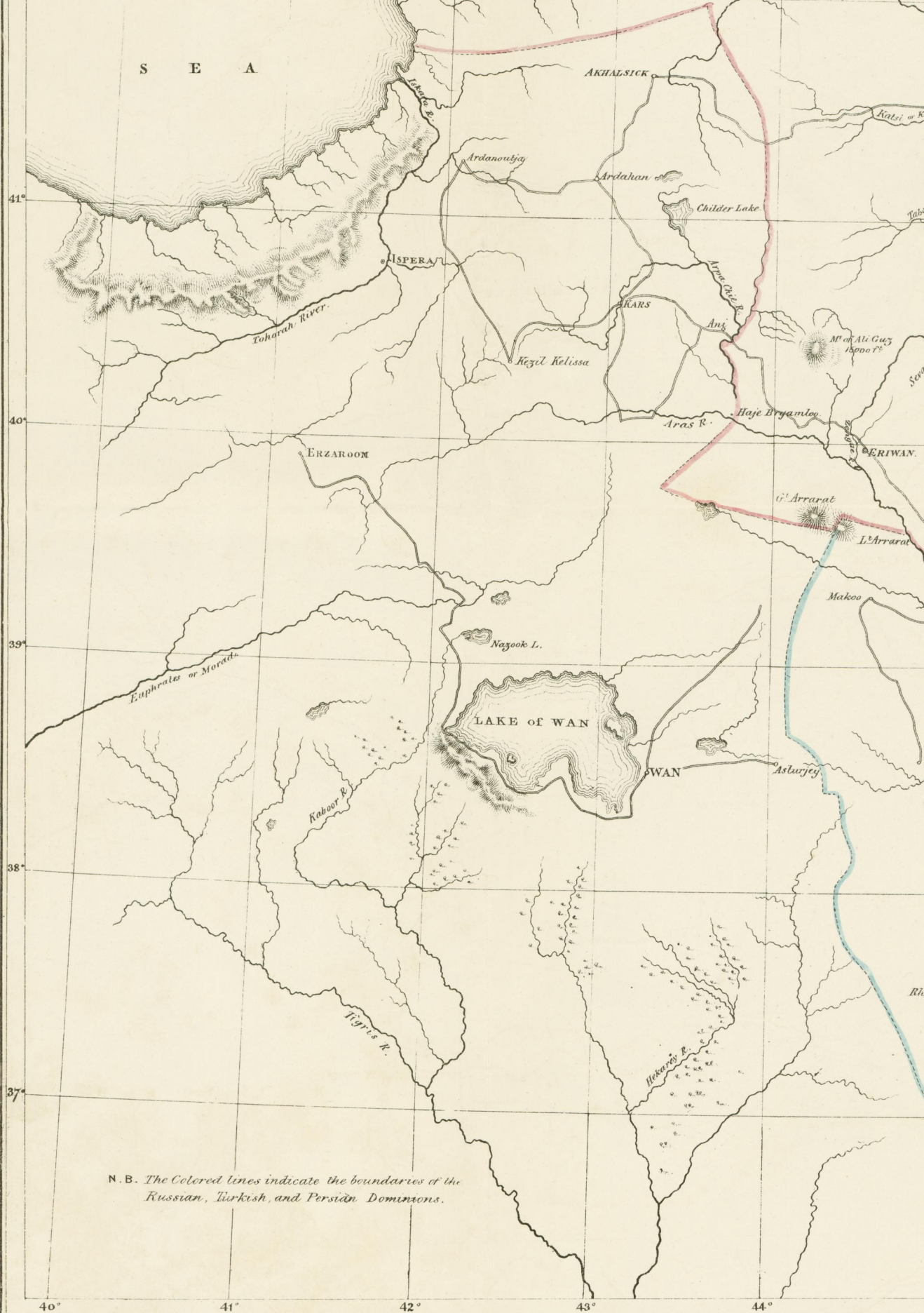
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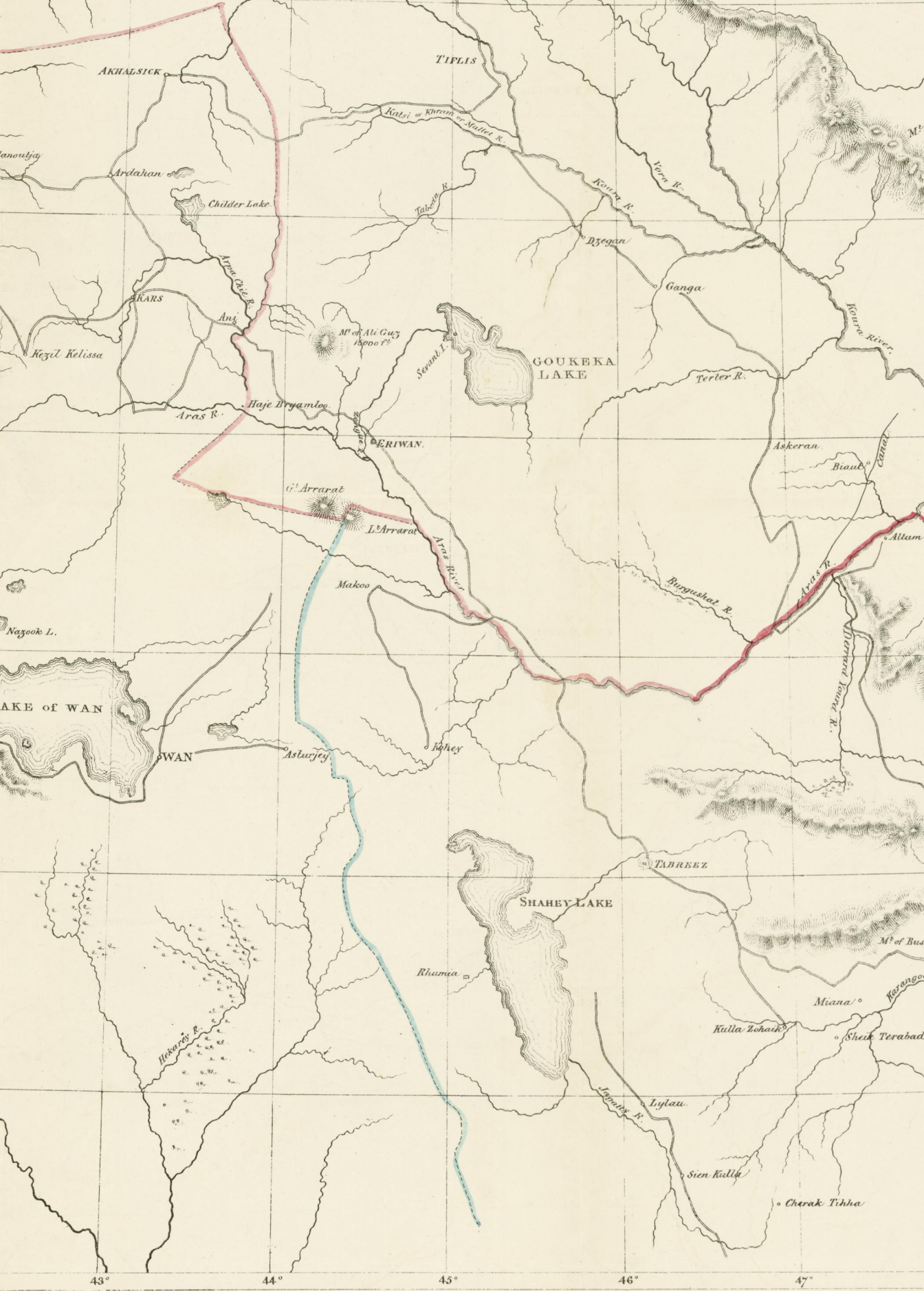
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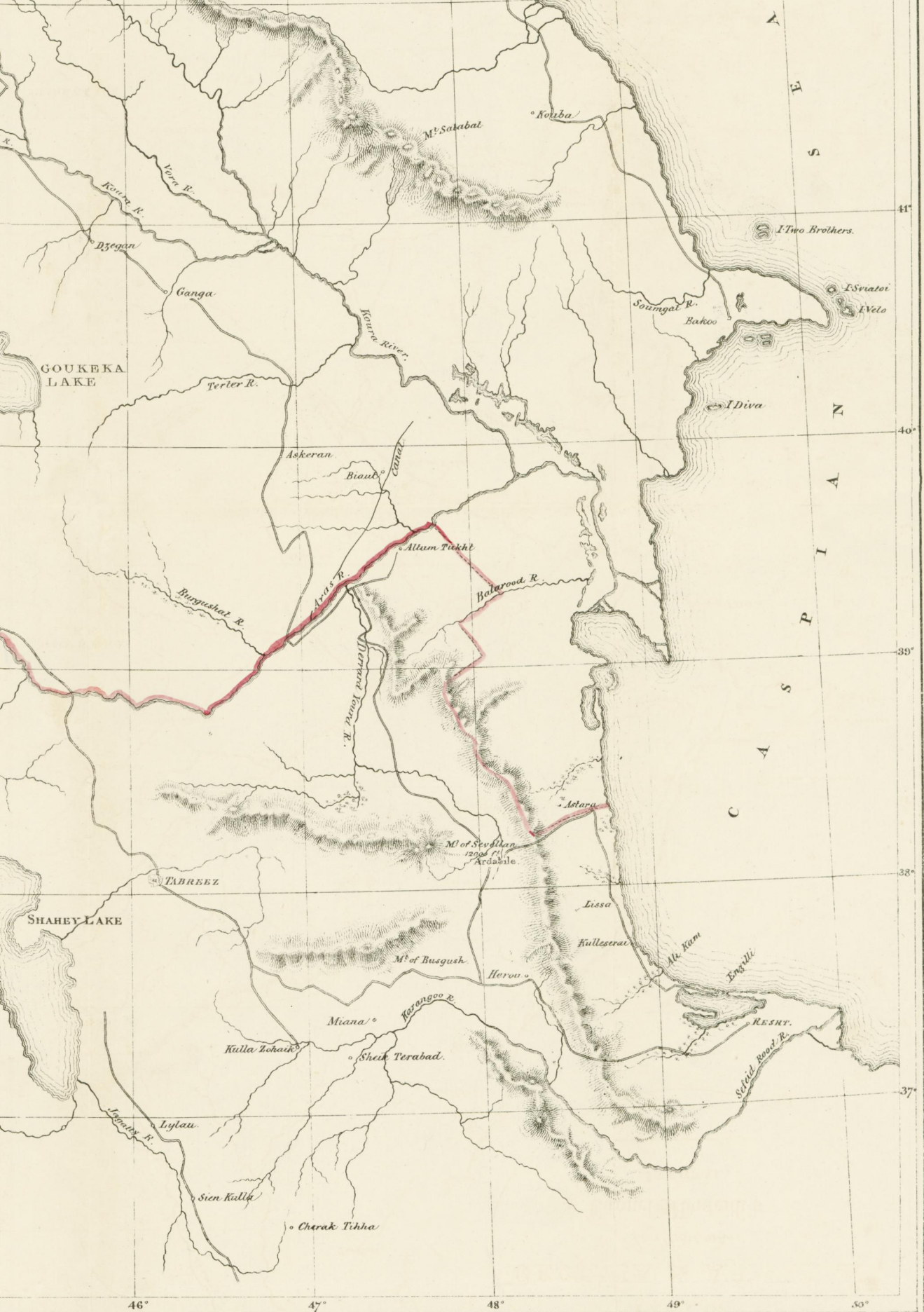
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S E A



N.B. The Colored lines indicate the boundaries of the Russian, Turkish, and Persian Dominions.





the hills are much higher, and present a broken, abrupt appearance, being generally composed of pudding and sand-stone, highly coloured with iron, and shattered by the numerous earthquakes to which Tabreez is subject. At the twelfth mile I reached the fine village of Bosmitch, situated on a small plain three miles in diameter, generally swampy, and the climate sensibly colder than that of Tabreez. As the celebrated Cave of Secundereah, resembling the Grotta del Cane in Italy, was only distant six miles, I proceeded to the village of Secundereah, situated at the mouth of a very strong defile formed by the river of Sied Abad; and having procured a numerous party of villagers with tools, combustibles, &c., set out, determined fully to examine the Cave, or at least to ascertain to what extent the noxious vapour existed; we also took some fowls to see the effect produced on them. After a fatiguing walk of three miles, up a rocky and steep ravine, we arrived at the entrance of this singular cavern, the mouth of which was fifty feet wide and thirty feet high, descending very rapidly to a depth of thirty feet.

The guides set fire to some brushwood, and found the air much less noxious than usual; and it was only after a descent of 10 feet that we felt any inconvenience. We were absolutely standing on the bones of some animals which had perished there upon a former occasion; we remarked a dog, a deer, and two foxes: the head of a wolf lay at some distance. We, at the same time, put to flight a great number of pigeons, who build in the roof of the cave. We found that fire was extinguished at a few feet below where we stood, and the fowls died in half a minute. The sides of the cave had many marks of sulphur in powder amongst the soft sand and limestone, which were also strongly coloured with iron. Though the fire, made with dry brush-wood and thorns, even when sprinkled with naphtha, was instantly extinguished, portfires and fuses burnt nearly the same time as in the open air. I was, therefore, enabled to fire a quantity of gunpowder at the very bottom. The quantity amounted to several pounds at a time, and that repeated often, had the effect of so entirely filling the cave with smoke, that we could no longer see anything at the bottom. On again throwing in some fowls, they soon made their escape, and fire burnt at the bottom. I would not, however, allow any of the people to descend, which they appeared willing to do; a dog also ran in, and returned in a few minutes. On a former occasion, when this cave was visited by a party of the mission, accompanied by Mr. Browne the celebrated African traveller, fire would not burn two feet below the entrance, and oppression was felt close at the mouth of the cave. Mr. Browne entered some paces by holding his breath, but an English officer attached to the mission had nearly perished in attempting

to follow him. He was instantly dragged out, and recovered with some difficulty. In the winter (subsequently to my second visit), after a strong gale of wind from the N. W. had blown for some days directly into the mouth of the cave, we were enabled to walk all over it, and only in a deep hole, at the bottom, did there exist any noxious air. There a fowl died in two minutes, and from its cries appeared to suffer much. After sixty feet we found the cave again ascended, and curved a little to the right: it then became exceedingly narrow and very low, forming a kind of passage, which did not allow of standing up; we could not see to the end of this, even with a reflecting lamp, and none of us felt inclined to prosecute the discovery. I have only mentioned these circumstances to prove how much the extent and force of the vapour are affected by the state of the atmosphere and by particular circumstances. As the ground slopes rapidly from the mouth of the cavern, both to the ravine and inwards, it might be cleared away with little difficulty, and the heavy noxious gas thus allowed to pass off; but with the exception of forming a large winter stable for sheep, no other good purpose could be answered by it. There was formerly a human skeleton, which has been removed; it was that of an old man in the village, who, tired of life, took this way of ending his misery. The peasants considered the circumstance of the cave being accessible little short of a miracle, but were much disappointed at not finding the treasure said to have been deposited there by Alexander, from whom it derives its name.—Returned to Bosmitch.

The river here comes from due south, through a stony but fruitful valley; the village of Lewan is sixteen miles above. Here the harvest is two months later than in the plain, and from this the ascent of the steep part of Sahend commences. The valley now becomes a narrow and deep ravine, presenting many curious masses of a very soft sandstone, pierced with innumerable holes, like a honeycomb, and in which the people have excavated many stables for keeping their cattle and sheep in winter, as also their grain, &c. After three miles I passed some tepid springs, strongly impregnated with iron, which encrusts the margin of the basin with a red substance. The ascent now becomes very steep along the banks of the same stream—here a narrow but rapid torrent; and at twelve miles I reached a small level spot, covered with spongy moss, with some very deep holes, and a small lake, formed by the melted snow, which, however, in sheltered spots, never melts at this height. I found that water boiled at 196° of Fahrenheit, which, by adding 300 feet for the ascertained height of the nearest peak, gives an approximate height of 8500 feet above the level of the ocean. From this point Mount Ararat was visible, (being N. 38° W. by compass,) and the whole of the country

properly called Azerbaijan. I remained encamped here for four days, and found the thermometer never above sixty, and at night it always froze; the greatest cold was 27° of Fahrenheit. Having visited the sources of all the streams flowing from Sahend, I ascertained that, with the exception of the Karangoo, which runs through Hushlerood into the Kizil-Ouzan and the Caspian, the whole of them fall into the lake of Rhumia. The weather was invariably clear and fine, and enabled us to take very correct bearings of the principal points on the map. Finding that none of the streams were available for the purpose required, I descended the mountains along the Karangoo river into the district of Hushlerood (eight rivers), and halted at the fine village of Khalifa, from which to Sares-Kend, the capital of the district, is fifteen miles, where I determined to halt for some days for the purpose of visiting the ruins called Culla Zohak, so celebrated in Persian romance as the residence of a tyrant, who daily sacrificed two of his subjects to the snakes by which he was tormented. This, however, only proves that they were of greater antiquity than the people of the country could now account for. Early on the following day, I descended the small brook of Sares-Kend, which, at the fourth mile, falls into the Karangoo, here a considerable stream. We forded it with some difficulty, and ascended the steep rock on which stands the fortress: though part of its walls are built on the precipitous rocks, under which runs the before-mentioned river, it was two miles before we could reach what had formerly been the gate—every where surrounded by deep ravines, that on the right formed by the Shoor Chie, a small stream coming from the south, and so salt as to be unfit for use. On entering the ruins, it was very easy to perceive that they had been built long before the Mahommedan era, as well from the solidity of the construction, as from the semicircular arches, and the total absence of the Arabic architecture. In fact, not a single inscription in that language was to be seen, and it was most probably ruined before the conquest of this part of the country. It appears to have formerly consisted of two fortresses; the one on the south, which is the strongest and highest, and the other on the north side, which I imagine must have been a palace. One light and beautiful semicircular arch, which must have been a door or a window, still stands on the abrupt precipice, looking towards the Karangoo. It is 14 feet high and 8 feet in diameter; over this I was told, a stone slab, with an inscription, formerly existed, but I in vain searched for it among the ruins, although I cleared away all the rubbish which had fallen under the arch. My guides told me it had only lately fallen, or been taken down, for they perfectly recollected it, with some unknown characters on it, and they supposed that, with other hewn stone, it might still be found

at the residence of the Khan at Sares-Kend, for the construction of which a quantity of materials had been removed from these ruins. No other inscriptions of any kind were to be found; but I have not the least doubt that it is the ancient Atropatana, which has been erroneously supposed to be at, or near, Miana. The two fortresses are distant 500 yards from each other, and joined on the south-east side by a strong wall, flanked with towers. The southern castle has them much nearer than the other, and is better provided with loopholes, still in good preservation: the walls also are stronger, and the whole appears to have been a kind of keep to the remainder of the fortress. These two castles are joined on the south-east, along the steep brow of the hill; on the north-west no junction was necessary, as the rock has there a perpendicular height of 200 feet. A tradition is still preserved of the siege of this place by the forces of all Persia, when driven to revolt by the cruelty of Zohak; and they pointed out the stations occupied by the troops of Khorasan, Arabia, and Fars, indicated by a number of semicircular intrenchments of loose stones, about four feet in height, exactly resembling the camp occupied by Nadir Shah, in his Turkish wars. Its natural strength would have pointed it out as a proper position for a frontier town, such as Atropatana is described to have been; and the fertility of the surrounding country, its abundant supply of water, and its being in the direct line which the road must then have followed from Parthia to Ganzaca confirm the conjecture. (It could not have been Tabreez, as stated by most authors.)

Having followed the river which here flows through a deep rocky ravine to a point where I had formerly traced it up, I returned to the salt mines, twelve miles south of Zohak; and there crossed a high range of hills which bounds the district of Tap-Tap, now entirely abandoned to the great tribe of the Shekakies, who pasture their cattle there during the summer months. I descended by a very difficult road into the bed of the Subliga, one of the branches of the Jagatty. On the following day I went to Lylau, near which a large dam had been constructed across the river, at this season nearly dry; and immediately in the vicinity of this village I saw extensive ruins of those solid mounds of earth which characterize all the ancient cities in Persia. The people could give us no information regarding them, except believing that they had been built by Europeans, and destroyed by the first Mahommedan conquerors. The extent of the walls can be very imperfectly traced, and the river appears frequently to have changed its course—a thing not to be wondered at from the perfect level of the country, and the soft nature of its banks. During the spring the greater part of the plain is under water, either from the overflowing of the Jagatty, or of the Tatowa, distant only three miles from each other. It has at all times

been celebrated for the abundance and excellence of its pastures, and from that cause was the favourite residence of many of the Tartar princes. The city of Tabreez appears to be considerably too far north to agree with the position of Ganzaca, which these ruins do ; and is situated in the coldest and most barren part of Azerdbijan, consequently little calculated to answer the purpose of winter quarters for so large an army as that of the Emperor Heraclius during his second expedition into Persia. They are also near the junction of the three roads leading from Ctesiphon, the then capital of Persia, by Senna, Soudj-Bulak, and Burrandizi. The ruins are about fourteen miles in circumference, and their greatest extent is from east to west. The city has been entirely composed of sun-dried or mud buildings, nor is there any that attracts attention. However, several villages have been built recently on its site, and for many years people have been employed to work the earth for saltpetre, which must have destroyed any ruins that might have existed. I searched the whole plain as far as the lake of Rhumia, here only a few inches deep, but could find no other ruins of consequence, except at Satelmish, where, on a small limestone rock, are still to be seen the ruins of a fire-temple, but of no consequence. A Kurdish chief told me of another *European city*, now in ruins, called Sheher-Subz. I went thirty miles with him on the Soudj-Bulak road, and only saw a small, but very ancient, fortress, evidently intended to guard this principal entrance into Kurdistan, without either inscriptions or ruins of consequence. Twelve miles from Soudj-Bulak, and not far from this, was one of the best preserved fire-temples I have seen in Persia. It was supported by eight columns hewn out of the rock, and accessible only by a ladder ; the altar was perfect, as also some tolerable sculpture of priests attending the sacred fire, precisely like those of the Sassian coins. Some arrow-headed inscriptions were said to exist, but we did not succeed in finding them.

Having finished the survey of this plain, I again ascended the Jagatty, which, at six miles from Lylau, flows through a narrow valley, highly cultivated, and full of villages. At the thirtieth mile I reached Sienkulla, the capital of the district so called, near which is the junction of the two principal branches of the Jagatty ; the one which I intended following coming from the Tukht-Suliman, the other from near Banna, in Kurdistan. This being a principal station, I remained four days to make astronomical observations ; and then proceeded along the eastern branch of the stream, and soon entered a very narrow valley, which we continued to ascend with very lofty mountains on our left hand, forming part of the mass called Sofa Khona. At the eleventh mile I crossed a range of hills, through which the river had forced a very

narrow passage, not more than 20 feet wide, the rocks standing perpendicular on both sides. Immediately on descending I again came to the river, on the left bank of which is a spring, strongly impregnated with gas, like the Seltzer waters. It is in a small round basin, of four feet in diameter, and elevated about three feet; though the water is thrown to the height of 30 inches little runs out. The reservoir has evidently been formed by the gradual deposit of the waters. It is called in the country Yakout Buttak, as emeralds are sometimes said to be thrown out. I picked up a small piece of green quartz chrystal, which may probably have given the name to the spring. At the twentieth mile I crossed another range, called the Sursat, and then marched over a very elevated tract of level country for ten miles, when we arrived at the small village of Youngally, inhabited by Kurds of the Mekrie tribe. On our left were the mountains of Balcas; on the top of which is a Mahomedan tomb, called Yakoub Ansar. The country over which we passed for the last ten miles was 5000 feet high, cold and barren, and the few Kurdish and Afshar villages poor and wretched; we with difficulty procured at any price the necessary supplies for ourselves and cattle. On the following day we marched over a richer country, watered by several fine streams from the mountains of Balkas, and at the fifteenth mile reached the castle and village of Cherak Tihha, the residence of Mahomed Khan, chief of this branch of the Afshars, situated on the banks of the Serifshan River, which is the principal source of the eastern branch of the Jagatty. Having procured a party of horsemen, we proceeded over some very rugged ground five miles in an E. S. E. direction, when we came to the ruins of the palace erected by Suliman, one of the first califs of Bagdad. It is a fine quadrangular structure, built round a natural basin of 70 yards in diameter, and presenting one of the most singular phenomena in nature. A small channel, of four inches wide and three deep, carries off the superfluous water, which appears to be considerably agitated by a strong spring; on a nearer approach this is found to be occasioned, like the smaller one of Yakout Buttak, by gas, which is only confined by the body of water through which it forces its way. The water flowing from this fine reservoir forms small pools outside the gates, and a deposit of tufa immediately takes place, of which the whole hill is composed, and has most probably been formed in a similar manner, though it has now reached a height of 300 feet. The water appears to occupy a greater space below than above, but all the line I could procure (400 feet) was insufficient to find a bottom, either at the side or centre, where I was able to go on a raft. The whole of the mountains about appear to be of a similar formation, and the brooks are almost filled up by

large masses of a light porous tufa. Madreporé* is also abundant. The palace is highly ornamented in the Arabic manner, and has been one of the best modern buildings in Persia. To the north, on the top of one of the highest peaks of Balkas, stands a strong casile, with four towers, and about 100 yards of a side. I could not ascertain to what era it belonged, but imagine it was far anterior to Mahomedanism, and probably was a fire-temple of the later period. It had no Arabic inscriptions, which everywhere cover the walls of the lower buildings. After a minute survey of the palace, and getting some of the Arabic inscriptions copied, which were only verses from the Koran, or moral sentences, I proceeded to a remarkable peaked hill, about two miles to the south-west, called the Zendan, or prison. With considerable difficulty we scrambled up to the top of the hill, which is higher and steeper than the former, but of a similar formation. On reaching the top I found an immense hollow of the same irregular form, with signs of water having been considerably agitated against its sides, but in other respects exactly resembling the crater of a volcano. The eye could not reach the bottom, so that I could not ascertain if there was still water; the diameter of this was considerably less (perhaps forty feet). We descended with even more difficulty than we had clambered up, and commenced a strict search round the base, to ascertain if water had ever forced its way through the mass of rock. On the western side the hill appeared to be less compact than in other places, and a considerable channel, in which there is now no water, has been washed away apparently by a rapid current. I, therefore, think it not impossible that this hill, like the former, had once been the same kind of basin, gradually formed by a deposit of the water, which, at last, on reaching a height beyond which the sides were unable to resist its pressure, found a passage through the lower part. Whether this is the case or not I leave to the decision of more able geologists than myself; but the fact is undoubted, that this mass of mountains in the neighbourhood, 7500 feet high, appears to its very summit to be composed of the same light deposit. In the south-west extremity are extensive mines of sulphur, and a white substance was shown me, which they used in their sherbet, of a pleasant acid taste; they praised it as being an excellent tonic. The disturbed state of the country prevented my remaining longer in this quarter, and the season was getting too far advanced for the mountains, which are now abandoned by the Illiats, or wandering tribes. Our journey lying over the highest part of the Balkas, we ascended the Serifshan stream, which, at the third

* Strange as this may appear, madreporé is found in great abundance through Azerdbijan, and, in some places, is actually in a state of formation by small insects inclosed in a substance like straws.

mile, issues from a narrow valley, about one mile in length. It passes through the village of Koom Tippa (sand-hills) from a remarkable round mound of stones and soft sand, situated in a recess of the valley ; from this commences the steep ascent of the mountains, leaving the stream on our left. At the third mile we reached the top, from which we had a most extensive view, and could judge of the height at which we were from seeing the tops of all the secondary mountains of Azerdbijan far below us ; if any conclusion can be drawn from the boiling point of water, we were from 7500 feet to 8000 feet above the level of the sea, but we found no snow, though the water was frozen at eight o'clock, on the 12th of September. We remained at this point until four o'clock in the evening, to make observations, when we descended by a very difficult road, and at the third mile reached a small stream, which I found to be the head of the Eye Dagemish river, which falls into the Karangoo, near Miana. We continued ascending and descending numerous ravines, for five miles, to Sied Keday, a Shekakie village, which we found abandoned, and with difficulty could persuade the guides and guards to proceed, there being then a feud between the Afshars and Shekakies, in whose country (the Shekakies) we now were. At the fifteenth mile we came to Kara Dash ; the Chief requested us to pitch our tents at some distance from his castle, but ordered us to be provided with everything, and paid me a visit late at night. He was an Afshar, but not on good terms with the chief we had just quitted. An old castle called Gour Kulla, built on a dark-coloured rock, is immediately below the village, but possesses nothing worthy of remark. We continued to descend for the space of fifteen miles, when we came to the fine village of Yengaga, nearly concealed by gardens, in which even pomegranates grew, so much had the climate changed in the space of forty miles. Having always considered the Kizil-Ouzan as the frontier of Azerdbijan, and government of Abbas Mirza, I was not a little surprised to find the Zenjan princes' authority extended over three large districts, besides many villages, on this side.

I mention this circumstance as showing how precarious are divisions and geographical descriptions of the Persian empire. My orders could be of no avail under a prince (Abdalla Mirza), who made no secret of his ill will towards the heir apparent. The natural hospitality of the Persians, however, overcame all difficulties, and I found equal, if not greater, facilities granted me by the chief Abdalla Khan. He not only gave me a kind and hospitable reception, but accompanied me to the lead mines of Ouriard, in which district I then was. These mines have never been regularly worked, nor perhaps are capable of any very great advantage being derived from them. A thin

vein of very rich grey lead ore extends through a hard schist rock, close to the surface, for nearly six miles, never distant more than a few inches below, but has not been found to extend beyond that depth. The specimen I tried yielded, in a common forge, 70 per cent. The hills are here covered with a low brushwood, fit for charcoal; the borders of the river supply a considerable quantity of willow and other light wood. Having lately been accustomed to the cold air of the mountains, we found the confined vallies of the Kizil Ouzan disagreeably hot. The water here became rather brackish, though used by the inhabitants and cattle. At two miles from Yengatcha, we reached the banks of the Kizil Ouzan : at this season only a shallow and narrow river; but in the spring of the year, or from April to July, the melting of the snow renders it passable only where bridges or ferries are established. The river is here confined by high mountains, which sometimes obliged us to quit its banks, but the road was generally practicable for troops, and one for carriages might easily be made.

At the tenth mile we came to a very strong defile, which had formerly been defended by a fortress on the right bank. This also dates its existence from the most remote antiquity. Neither inscriptions nor any thing remarkable are to be met with. This pass is called Derbund, or gates, forming a natural fortress, into which the inhabitants retire, with their families, &c. in times of war. At the thirteenth mile the country opens, and a stream flows from the north-east, called the Kulla Chic. At the fifteenth mile we passed a brackish stream from the right, which was encrusted with salt, and unfit for use; at the seventeenth mile another stream, from the right, called Mekrawan, from a village sixteen miles higher up; and at the eighteenth we halted at Kara Butta, a large village of Afshars, where one of those strange scenes took place which are so frequent in this wild country. The chief, brother to my host of Yengaga, had proceeded to a camp of the Shekakie tribe, to arrange some dispute regarding the lands on the banks of the river, and was shot during the conference. The whole country was in alarm, and the other villagers flocked to the residence of their murdered chief; the small clan who had perpetrated the outrage fled, but being certain of support from their numerous and warlike tribe (Shekakies), the other party assembled, as well to save themselves from being plundered, as to endeavour to revenge the death of their chief. On the following day I marched as early as possible, descending the river. At the sixth mile the Zenjan River falls into the Kizil Ouzan, which I followed nine miles farther to the village of Kulliga, on the right bank. Having formerly traced the river from Miana up to this point, I here quitted its banks, and struck immediately over the

range of the Koflau Kous, much lower than the road at Miana; in fact, there was no obstacle whatever even for carriages. It was eight miles over a gradually rising country to the village of Karagalla, and, at four miles farther, I reached the banks of the Eye Dagemish River, with Sheikhterabad three miles on our left. Near this are the celebrated copper mines, which, perhaps, for richness and facility of working, are not exceeded by any in existence. The country is, however, destitute of fuel—a certain supply of which is only to be found at a distance of one hundred miles, or five days' march of mules. The river supplies an abundant power for working machinery, and under better management the mines could not fail to be highly productive. At three miles farther I passed the Karangoo, near its junction with the Eye Dagemish, now a considerable stream; from this it is two miles to Miana, where the heat (16th September) was still very oppressive. I searched the country in every direction to ascertain if there existed any ruins which could indicate the site of an ancient city (Atropatana), but without success. This miserable village is considered the capital of the fertile district of Gerniarood, but was nearly ruined by the Russians in their late invasion of Persia. It is much dreaded by all travellers, on account of a kind of poisonous bug, said to be fatal to strangers; more than one of the servants of the British embassy have suffered in passing through it, (the patient showing all the signs of a malignant bilious fever, with frequent relapses, terminating in death even under the care of our best surgeons); but whether owing to the fever for which the place is equally celebrated, or the bite, has never been fully ascertained. A division of the Russian army passed the winter there, and I believe no well-authenticated case of that nature occurred. Many of these insects were brought to me; but as some of the same kind had already been sent to England, I did not think them worth preserving.

We descended the fertile banks of the Karangoo, here called the Miana River, over which is a bridge of fifteen arches in good repair. The water at present flows only through three of them; the remainder serve as shelter for the caravans, which seldom enter the town, on account of the poisonous bug before mentioned. At the fifth mile the Kizil Ouzan forces its way through the mountains of the Koflau Kou, forming a defile hardly practicable for loaded cattle. The rivers, when united, take the name of the Kizil Ouzan, running through a broad valley, covered with brush-wood, and dividing into many shallow branches. We were struck with the number of water-snakes, which are said to be venomous, though I could not ascertain that either men or cattle, though constantly employed in the rice-fields, had ever suffered from them. At the twelfth mile we passed a fine village on the left

bank of the river, called Mamau, through which passes the great Ardabile road. The pass of the Koflau Kou is here practicable for carriages, and would offer no obstacle to the march of an army. Three miles below this the road runs along the brow of a steep mountain, and forms a very strong defile with the river running through it one hundred feet below where we stood. For two miles and a half the road is still very difficult and dangerous; we then descended into the bed of the river, and passed round a high perpendicular rock. The road is then tolerably good to Koubulak, making a total of twenty-one miles and a half. On leaving the village the road is steep and difficult, forming a pass still stronger than the one we passed yesterday. We crossed some rapid streams, which descend from the Midan Daug, and, at two miles and a half farther, passed the village Khalack, with some fine gardens on the banks of a stream of the same name. One mile and a half from this is a fine bridge of six arches over the Kizil Ouzan; and at the distance of a mile below, the mountains recede, leaving a small space of table land, which ends precipitately at the river on both sides, here very difficult of approach: one mile from this we descended by a difficult and stony road to the banks of the river, which are well cultivated, and passed another ravine from the left, called the Sukus Chie. At two miles farther the river is again shut in by high rocks; the route is scarcely practicable, and has only been rendered so, in any degree, by blasting, but never having been finished the passage is still dangerous; the road is then tolerably good to Alwar, where we halted. This day's march was only twelve miles and one furlong, but was very fatiguing to the men who drove the perambulator. Half a mile from the last stage we passed the valley of Miskeal, and, at two miles farther, that of the Kabak Chie, thickly wooded with willow and low bushes. We here entered the district of Khulkhal, extending a considerable distance on both sides of the river. Immediately on crossing the stream we ascended to the table-land, and, after a mile and a half, again descended, by a zig-zag and steep road, into the bed of the river, along which we continued for a mile and a half, when we turned up the valley of Muzra on the left, highly cultivated and filled with gardens, belonging to the village of the same name, which we reached after a march of a mile and a half farther. Having changed our guides we descended into the bed of the Kizil Ouzan, which we followed, as nearly as the nature of the country would permit, for seven miles, to the small town of Hisigine, situated on a rising ground near the river, and very well calculated for a military post, to defend the passage of this difficult defile. The town contains about three hundred houses. The inhabitants carry on a considerable trade with Ghilan, to which province they carry cotton and grain, and have

two hundred packhorses, which they hire to the merchants. We quitted the banks of the Kizil Ouzan, which are considered nearly impracticable. Our route lay over a rugged and very difficult country much cut by ravines, so closely resembling each other, that we could not easily find the road. The hills were generally of a mouldering clay-slate, with their veins of sulphate of lime. At the eighteenth mile we entered the valley of Berendeh, in which stands a considerable town, beautifully situated on a river of the same name, which rises on the lofty mountains of Auk Daug (White Mountain) ; it contains 1200 inhabitants, and the valley and sides of the hill form a perfect forest of fruit trees and vines—it depends on Khulkhal. The inhabitants of this town being principally Sunnies, had much reluctance to accompany us as guides, being generally ill used by their Sheah countrymen. That difficulty being overcome, we continued our route for four miles over the same kind of hills as yesterday ; we then reached the ruined caravansera of Mianserai, situated where the valleys of Berendeh and the Sha Rood unite ; the country was beautifully wooded with the lofty mountains of Ghilan, close on our left hand. This part of the country abounded more in game than any other place I ever saw. Innumerable partridges, hares, and wild hogs, were constantly crossing the road, which, for four miles and a half more, lies over three ridges of low hills, covered with trees, and well watered. The road then lies for fourteen miles through a beautiful valley to Durram, in the district of Tahrām, a fine village, near which is situated the palace of the Prince of Zenjan, who usually passes some part of the winter here. He has begun a bridge over the Kizil Ouzan, fordable only when the river is very low, and even then not without considerable difficulty ; the river does not run more than two miles an hour. This was the first place where we observed the olive tree, a few of them being cultivated in the garden of the prince. The high mountains of Ghilan bound the valley on the right, at the distance of six miles, throwing branches nearly to the river. They are never perfectly free from snow, so that this valley enjoys, in that short distance, the advantage of every degree of temperature. The mountains on the opposite side are a continuation of the Koflau Kou, but are much higher than at Miana ; and from the great accession of fresh water the river is no longer brackish : the mountains being covered with a stunted oak forest, present a green and luxuriant prospect. We were most hospitably entertained by the servants of the prince of Zenjan, and the following day continued our route down the valley, which presented features exactly similar to those already described. At the twelfth mile we halted, to breakfast at Kullat, another fine village, surrounded by some of the largest trees I ever saw ; the walnut grew to a height of fifty and sixty feet, and some of the plane trees

were really gigantic. Immediately opposite to this, on the other side of the river, are the ruins of an ancient castle; the people assured me there was nothing to be seen, and I found the ford both difficult and dangerous. It is built of stone, and stands on a low hill near the river; there was nothing remarkable about its appearance. We followed the valley for about twelve miles, and then turned off to Ziterabad, distant one mile and a half from the river. The inhabitants had moved higher up the mountains, on account of the heat, leaving only a few watchmen to look after their property; the olive was here a common tree. We marched at a very early hour through a highly cultivated country, with numerous fine villages, and at the thirteenth mile came to the ruins of what must have once been a considerable town, called Byram Abad, and on the opposite side of the river was a fortress of some celebrity from commanding this pass. It was called, like everything the people were unable to account for, Giaour Kulla (Fort of the Infidels); it is destitute of inscriptions or sculpture, but of considerable strength and extent. The valley here becomes thickly wooded near the river, and six miles higher up the soil is stony, sandy, and little cultivated. At the tenth mile a high mountain approaches near the river, along which a road has been cut with much difficulty; and at one mile farther we crossed the bridge of Menjile, a modern structure of no importance. A small town of the same name is situated one mile and a half from the bridge, the entrance to which is through an alley of very large olive trees, which are here cultivated to a great extent; the export of oil and soap is very considerable; the fruit is very little used as food. It is a singular circumstance, that this district, and the pass of Roodbar, are the only parts of Persia in which this tree is indigenous. As Menjile was a very important geographical position, I determined to halt for some days to enable us to examine the valley of the Sha Rood, or southern branch of the Kizil Ouzan, which is celebrated as having been the residence of the chief of the Assassins, or Old Man of the Mountain. Since our entrance into Tarim, which is after leaving Berendeh, we found the people only spoke Gilla or Taut, and but few even understood Turkish or Persian. This I imagine must at one time have been the most general language of the whole empire, for it differs little from the Lack, Loor, and Kurdish. Even in Mazanderan, where the people speak the most barbarous language in Persia, it appears to be only a corrupted dialect of the Gilla; and I have often found solitary villages in the remote mountain districts of Karadaug and Karabaug speaking the same language.

During our stay at this place we were much incommoded by a strong wind, which invariably began to rise at about eleven o'clock,

A. M., and continued to blow until near midnight ; it was sufficiently powerful to blow down our tents, until fastened more securely than usual. A thick fog generally covered the top of the mountain, but there was seldom rain : the people said they considered it the greatest blessing, and without it they would, on account of the heat, be unable to inhabit the dry spot where the village is built, backed as it is by a naked rock, which powerfully reflects the rays of the sun. This wind only extends a few miles up the valley, and we did not fall in with it at a distance of eighteen miles from the entrance of the pass.

The height of Menjile is not more than eight hundred feet above the level of the sea, as shown by boiling water ; but this would be rather more than a thousand above the Caspian. Having been previously well informed respecting the existence of the fortress inhabited by the Assassins, and several respectable people at Kasbine having offered to accompany me thither, I was surprised at all the inhabitants of Menjile declaring they never had heard the story, and were ignorant of the existence of the ruins. Knowing that they were situated on the banks of the Sha Rood, I determined to follow that river to its source, or until I found the object of my search. On the following day I ascended the valley over a most excellent road, and forded the river with great difficulty at the seventh mile, to look at some ruins which proved to be of modern construction. I passed, at the twelfth mile, Loushan, and, at the twenty-eighth, Berenzini, where we learnt that the object of our search was still distant thirty-five or forty miles ; the road was good throughout, and the valley about three miles broad. We continued to ascend the stream on the same side, and found some of the Illiats had already taken up their winter quarters in the valley. After a long and fatiguing march of thirty-six miles from Berenzini, we reached Jirandey, just where the stream from the mountains of Ala Mout, in Mazanderan, which are perpetually covered with snow, joins the stream of Kherzau, coming from the mountains behind Kasbine. We now commenced the ascent of a rugged and steep mountain, on the top, or rather round the sides, of which (for it enclosed a considerable portion of the upper part) ran a wall strongly built of stone. On the top is a tower, which, being totally enclosed within, the outer wall was probably solely intended as a look-out. On one side, over a deep ravine, appears to have stood a considerable residence, and it formerly had a communication by a narrow staircase, with a garden below. The lower part of the mountain has been formed into terraces, but the whole is far from answering the description of the terrestrial Paradise described by some authors ; the climate is decidedly cold, and for at least half the year it must have been a disagreeable habitation. The power of this chief, whom I cannot help con-

sidering as the head of some religious sect of the Ismailites, is said to have extended over both the districts of Taroom and Rood Bar; that is, the princes who then governed Persia, allowed him to collect the revenues of those districts as a bribe for his forbearance, or to secure his aid against their enemies. The limits of this paper will not allow of a discussion regarding this sect, concerning whom volumes have already been written. Being originally schismatics in the very commencement of Mahomedanism, they were persecuted with unrelenting cruelty by the first califs, and ultimately had recourse to assassination as a defence against their powerful enemies. They derive their name of Assassins from the corruption of Hassain, one of their most celebrated leaders. There were several divisions of them scattered through Syria, Kurdistan (near the Cape of Wan), and Asia Minor; but all acknowledged as Imaum, or high priest, the chief residing at the place here mentioned. Innumerable anecdotes are still related of the address with which they introduced themselves into the service of the greatest men in Asia. More than one prince, who undertook expeditions against them, were killed before arriving at their castle. Houlakoo Khan, grandson of Gengis, took this fortress, and put many of them to the sword; they, however, must subsequently have succeeded in re-establishing themselves, as Timor again undertook an expedition with his usual success. In the building I visited there are no inscriptions. A bath reservoir and extensive place are the only buildings now remaining. Descending the valley by the same route, we came to within twelve miles of Menjile, when we crossed a range of high-wooded mountains, to visit the alum mines, near the village of Surdar.

The mineral is very abundant, and worked with great care; there are always eight boilers at work, and the mines are rented for 2000 tomans (about 1200*l.* sterling) per annum. We then ascended the mountains of Shama Dash, from which I could see the plain and village called Vizier Chumman (Meadow of the Minister), which I had visited on a former journey, and returned thence along the top of the mountains by a very difficult road to Menjile, both tired and disappointed by our journey. Halting one day to refresh our cattle, we descended the ravine of the Kizil Ouzan, which now takes the name of Suffied Rood; at a mile and a half farther we crossed the bridge before mentioned of 500 feet in length and built on seven arches. Notwithstanding the width of the river, the stream sometimes breaks over the bridge in the spring of the year. We entered immediately into the strong defile of Rood Bar; the road is exceedingly stony and rocky, but does not present the same terrific appearance as the pass of the Caucasus, or that of Kara Daug (Black Mountain), and might

be rendered very practicable for artillery and carriages. At three miles and a half we came to a recess of the mountains, here thickly planted with olive trees, with some villages visible on the other side high up the mountains; at a mile and a half farther we crossed a small stream called the Zearut Chie, with a village of the same name, entirely hidden by the olive plantations; and half a mile below we came to the small town of Rood Bar, where the river is fordable except during the spring months. The town may contain 500 houses, and though there is little cultivation, except in their gardens, it carries on a considerable trade in oil, olives, and soap, all of which are exported to Russia. Our route lay in the same valley, presenting strong points of defence, and thickly wooded with olives. At the tenth mile we reached the caravansera of Rhustom Obad, situated on a height, and admirably calculated for the defence of this defile. The road now lies through a narrow valley, highly cultivated, but indicating a near approach to the Caspian. The olive begins to become rare, and a thick forest covers the sides of the mountain. The people lose the fresh colour of the upper land, and look sallow and less athletic. After a journey of eleven miles and a half through a wide but thickly-wooded valley, we reached Imaum Zada Hashim, the tomb of a favourite saint of the Sheahs, having, on the other side of the river, the lofty mountain of Dufelh Daug. Nothing can form a stronger contrast to the high parched plains of Persia than the province of Ghilan, covered with wood, damp, swampy, and unhealthy. The people no longer live in large villages, but are dispersed, in small parties of four to ten houses, through the forest, and always at some distance from the road. Their features more resemble Indians, and the cattle are small, having also the hump peculiar to that country. Though an attempt has been made to render the road more practicable, it is still exceedingly bad, and with the greatest difficulty are goods conveyed from the principal mercantile town in Persia to the interior. Rice being the only grain grown in the plains of Ghilan, the fields are constantly under water. The road is cut through for the purpose of irrigation, and the soil being either vegetable mould or clay, the mules fell with their loads, rendering our journey very disagreeable. The plantations of mulberry trees are so extensive, that they are with difficulty distinguished from the swampy forests, through which, I think, no persons but those acquainted with them from long practice could find their way. We were often obliged, in the distance of twenty-two miles (from Imaum Zada Hashim to Resht), to change our guides, the person seldom knowing more than the country immediately round his own dwelling. Resht, the capital of Ghilan, contains 50,000 inhabitants, and is by far the most flourishing place I have seen in Persia: the houses are of a very superior construction, and the

streets generally well paved. The natural difficulties of the country have saved it from being plundered during the civil wars which devastated for so many years the other provinces. The government has always been much in the hands of its own elders, who being usually the most wealthy and respectable people unconnected with the great military tribes, their influence depended solely on the good will of the people. The fear of their calling in foreign aid has always rendered the Persian government averse to pushing them to extremities. There exists in Ghilan a wealthy class of landed proprietors; and the people are well lodged, clothed and fed. Properly speaking, there are no villages in this province; the peasants reside either in single dwellings or small communities, seldom exceeding eight houses; there are bazars established in central situations, with fixed market days; the people have no fear of leaving their goods during the intervening time; and perhaps a blacksmith, baker and carpenter may constantly reside there. The only other towns are Enzilli (the port of Resht), containing 2500 inhabitants; Fomen, 1200; Mosulla, 2000, and Lahigan, 7000. The climate of this province is so unhealthy as to have given rise to the saying, 'Whoever is tired of his life, let him go to Ghilan;' and Resht is the worst, even the inhabitants bearing signs of its malignity. Fevers, dropsies, and enlargement of the spleen, are the most common disorders; and cutaneous eruptions are so common as not to be here considered disease. The quantity of rain that falls in Ghilan far exceeds that of any other of the Caspian provinces; this appears to be occasioned by the prevalence of north-east winds blowing directly into this bend of the Caspian, here backed by very high mountains, which arrest the clouds, and occasion their descending in torrents of rain in a very confined space. To such a degree does this wind prevail, that all the trees on the mountain are bent in a contrary direction. Cotton will not grow, and the fruits have an acid and harsh taste. Sugar canes and orange trees, which abound in Mazanderan, are here only cultivated as ornamental plants. A most singular phenomenon is said (for I did not witness it myself) to exist during the winter season. A hot southerly wind sometimes springs up, which instantly changes the temperature in a remarkable manner, and immediately dries wood and other inflammable substances to such a degree as to render them liable to take fire from the slightest spark. The police are sent round to caution the people to extinguish their fires, as many serious accidents have taken place. This generally lasts twenty-four hours, and is immediately followed by a gale from the north-east, bringing snow and rain. As the mountains and high places of Persia are at that season covered with snow, this wind cannot derive its heat from coming over them, nor are there any satisfactory means of ac-

counting for it. I did not at first give credit to the story; however, on inquiring from many people of all ranks, as well in the towns as in the surrounding hamlets, I invariably received the same account.

From Resht I proceeded to the mouth of the Suffied Rood—unhealthy in the extreme, and difficult, from the rice cultivation and the thick plantations of mulberry trees. I had been obliged to leave my own horses, and to hire those of the country, which alone at this season can make their way through the deep mud. After twenty-one miles of a most disagreeable and fatiguing march, we came to the district of Lashtenasha, where there was an extensive bazar, much frequented. From this to the mouth of the Suffied Rood is thirty-six miles, through the same kind of country, over a road as bad as could well be traversed. The river is here of great breadth, and considerable depth within the bar, on which there are at times seven feet water, but frequently not more than three. At the mouth of this river a great sturgeon fishery has been established, and is at present rented and conducted by the merchants of Ashterkhan, one of whom told me that nearly 200 tons of caviar had been cured in one month, and sent to Russia. Fifteen miles from the sea, the Suffied Rood (White River) divides into two branches, forming, like the Araxes, an extensive island or delta. From the southern branch, another stream or canal again separates itself, and running parallel with the coast through several small lagoons, reaches Langerood. This was formerly navigable for boats, but is now obstructed by numerous shallows, and is seldom, if ever, used. I cannot pretend to judge correctly of the distance, as our journey was frequently interrupted by the swamps, and we made numerous detours in the forest to avoid difficult places. We returned along the banks of the river by a road much more practicable than the former one, being generally over the gravel bed of the stream, which at this season occupied but a small portion of it, and flows at the rate of a mile and a half an hour; it has frequently a depth of twenty-four feet, but the navigation is much impeded by shifting sands and fallen trees. We halted at the village of Resht Abad, close to the river on the right bank. This is the great road leading from Mazanderan to Resht; some parts of the causeway made by Shah Abbas are still in existence, and would have been in good preservation had common care been taken to protect it from the inundations of the mountain torrents, which, from the accumulation of fallen trees, have frequently changed their course and cut deep channels through it. Where such accidents have not occurred, the road is still good, and appears to have been carried through the swamps upon a bed of charcoal of several feet thick, on which rests a layer of earth and the pavement. In this part it is seldom used, from the frequent

detours to avoid the obstacles before-mentioned; and after a journey of ten miles over a detestable road, we reached Lahijan, a clean and beautiful little town; as it stands much higher than Resht, it is more healthy, and, as a residence, is far preferable. The great proprietor here was Ali Akber Beg, whose house more resembled a palace than the residence of a Persian merchant. From a hill close to the town, the coast of the Caspian can be traced in all its windings for a considerable distance on both sides. We returned to Resht by the direct road, a distance of twenty-five miles, which took us thirteen hours to perform.

The alarming state of the health of the party now obliged me to think of getting out of Ghilan as fast as possible, one of the servants having already died of fever, and most of the others showing symptoms of an attack. For this reason, on the 18th of October, we took the shortest road by Fomen, distant sixteen miles, the country presenting the same rice swamps or forests. This miserable town presents nothing remarkable except the palace of Hadje Jemal, who murdered Elton in 1746. The place was nearly ruined by Aga Mahomed Khan in the civil wars. We were only able to make eight miles on the following day to Zedic, which took us six hours. From this commences the ascent of the mountains by the pass of Mosulla, twenty miles of a difficult rugged defile, infinitely stronger than that of Rood Bar; however, having now got clear of the swamps, we found the mountains comparatively easy, and passed several iron forges, the produce of which is however very trifling. The town contains 500 houses, built on the steep sides of the mountains, down which stones occasionally fall, sweeping away all the buildings in their course. I took the angle of ascent of the highest peak above the town, and found it 34° ; by boiling water the elevation was 3500 feet above the Caspian. The ascent was winding, and exceedingly steep. At the sixth mile we stood on the summit of the mountains, here 7000 feet high, and nothing could present a stronger contrast than the appearance of the country on the east and west sides of them. The side towards Ghilan was thickly wooded, and covered with a dense fog, whilst the sun shone brightly on the other, where the country had a dry and even burnt appearance, without a vestige of wood. Our descent was much less rapid, and not difficult, to the village of Badjillan, situated in a forest of apple-trees, for which it is celebrated; water boiled at 202° , giving an elevation of 5500 feet; but here the orchards, and even grain, required irrigation. On the following day, by a gradual descent over a good road, at the fourth mile, we came to the Sha Rood, which we had passed at its junction with the Kizil Ouzan in a former part of our journey, near Berendeh. We now ascended the stream, which flows through a valley most beautifully laid out

in gardens, frequently passing large and flourishing villages. We halted at Derou, situated on a high bank over the river. We still ascended the river as before, for fourteen miles, when it flows nearly at right angles with its former course; and passing a low range of hills at the distance of eight miles, we entered Herou, a considerable town, capital of upper Khulkhal. On the following day we continued our route over an uneven, but highly cultivated country, to Ahmed Eyea, a poor village on the Midan Daug (literally 'easy ascent'). At the twenty-second mile we reached the pretty little town of Terk, surrounded by orchards belonging to the Shekakies. From this it is nineteen miles to Turkeman Chie, a village on the high road from Tehran to Tabreez. The latter part of this road has been so often gone over by other travellers, that I will return to Resht; from whence, at a subsequent period, I travelled along the shores of the Caspian. I will offer no apology for thus blending two journeys, as my object is solely to describe those places which I consider least known, and to avoid what has been often and minutely described by other travellers. From Resht we dispatched our horses by a route leading round the south side of the great back-water, as they could not be embarked, and even unloaded would have great difficulty to make their way by the swamps and ditches which everywhere embarrass the traveller in this difficult country. The people of Peer-i-Bazar have always been able to prevent the repair of the road to Resht, as they thus become possessed of the monopoly of the transport of goods from that place at a most exorbitant price, and even when the country is dry in the heats of summer, they frequently inundate it artificially to make it more difficult. *Their* cattle alone are able to make their way through the mud and tangled roots of trees through which the road lies. The distance is only four miles, but we were the same number of hours performing the journey; and had I not been *obliged* to pass it, I should have had no hesitation in reporting the route impracticable. The whole road consists of deep holes, into which the horses sink to the knees, and by constant habit draw out one leg after another to replace them in others of the same kind. I attempted to walk, but was soon obliged to remount my horse, having lost my boots. The Russians once attempted to advance by this road, but were easily repulsed by the militia of Ghilan, and this is the reason given for keeping it in its present state. There are two small rivers passing through the city, which might easily be rendered navigable for boats, and in no way injure the defence.

From Peer-i-Bazar we embarked, in a fine boat, drawing three feet water, but experienced great difficulty and delay in getting past some fallen trees, one of which we were obliged to cut in two. After a mile, we reached the great lake, or back-water, and with

difficulty followed a track through the reeds for a mile and a half farther. It blew rather hard, and our crew, with the exception of two Tartars, were the most timid sailors to be met with; they wished to come to anchor, but were forced to pass on, and in two hours reached Enzilli, a distance of fourteen miles. This being an important point, we halted here for some days, to make observations, as well as to rest our horses, who joined us on the third day, much fatigued and strained by their journey. The town of Enzilli, built on the low spit of land which separates the lake from the Caspian, is a miserable collection of wood and reed houses, with three brick caravanseras. Some low detached towers compose its only defence. When we arrived there were thirty vessels in the port, of from 50 to 70 tons, principally belonging to Bakoo, and three Russian brigs from Ashterkhan, which could not enter the back-water, the channel from which is 500 yards wide, but the bar has seldom (except after N.E. winds) more than four feet water, though the depth is much greater a short distance within. Were the channel confined on each side, which could, from the abundance of timber, be easily accomplished, I have no doubt that a deep passage would very soon be formed by the current, which always runs out.

Perhaps no question has been so much agitated, or at present remains in such doubt, as the actual level of the Caspian, and the variation which it has been supposed to be subject to. I will here state what information I have been able to collect on the subject. Not having then met with the observations of Engleheart, I had no idea that the Caspian was really lower than the ocean; and on finding water boiled at three-quarters of a degree of Fahrenheit higher ($212\frac{3}{4}$), I concluded that either some accident had happened to the thermometer, or the water contained impurities, which might occasion it. Fortunately, having four excellent thermometers, one of which had been constructed at the Observatory of Paris, I procured a quantity of distilled water, and repeated the experiment in vessels made expressly for the occasion; the result was invariably the same, which would give a difference (if the same law hold good above and below the boiling point) of 390 feet below the ocean. Considering this as impossible, I took no further notice of the experiments till I saw the measurements of Engleheart, stated at 54 toises, French measure, ascertained by a long series of barometrical observations. I will not say whether this question has been finally decided or not, my observations were purely accidental, having no idea that a difference to that extent existed. Another question has been almost equally discussed, viz.—To what variations the Caspian itself is subject? The people of Enzillon say that it rises and falls several feet in periods of nearly thirty years, independent of the accidental and temporary rise and fall of four

feet, occasioned by the long prevalence of winds from any particular quarter. This I have often witnessed ; but the greatest variation was three and a half feet, during which three distinct and very high surfs broke along the western coast ; the first at a mile from the shore.

Several authors have treated on the rise and fall at different periods. Hanway, in the papers he has written on that subject, mentions that, in 1746, the sea was much higher than when the expedition under Peter the Great sailed, in 1722, at which time there were only six feet of water in the channel of the Volga, but in Hanway's, twelve. In 1784, Forster remarked that the water had risen to such a height as to bring down the sea wall of Bakoo ; whereas the sea was, in 1828, distant from the nearest buildings of the city of Bakoo at least a quarter of a mile. The mouths of the Volga can, however, never be taken as a fair criterion, as that river must always be the principal agent in forming the depths of the channel, as also being itself subject to great rises. My experience extending only from the year 1811 to 1828, I cannot pretend to decide this point, except that, during that period, the Caspian, as well as *every other lake in Persia*, decreased most sensibly in depth. In the lake, or back-water, of Enzilli three new islands (besides the original one, called Mian Pushta) have made their appearance, and are now covered with reeds and grass, where cattle pasture,—even a few willow bushes are springing up. The back-water of Gemishawan, near Lankeran, is now fordable, which it was not in 1812 ; and, as I before observed, having no defences on the sea side, was nearly taken by the Persians in the year 1826, the town *now standing a quarter of a mile from the water*.

From Enzilli we marched along the narrow slip of sand which separates the back-water from the Caspian. It has been driven by the wind into irregular shapes, but is generally covered with a kind of coarse grass, and vast quantities of wild pomegranates, the skins or shells of which form a great article of trade with Russia. At the thirteenth mile we halted at a few houses, called Kopper Chall, the western boundary of the back-water, and where they say it formerly communicated with the sea ; but being shallow here, the other opening was made at Enzilli, when this one closed up of itself. The remains of the former opening are still visible, and a canal could at present be constructed in a few hours. We continued our route along the shores of the Caspian, which presented the same bank of sandy soil, about 100 yards wide, covered with pomegranate trees,—at this season loaded with fruit. Immediately on our left, the country was a thick, swampy forest, with numerous lagoons, in which were many decoys for ducks ; but the road was excellent, except when we were obliged to ford

the numerous mountain-streams. At the fourth mile we passed the Malarood, where a considerable fishery for salmon was established. This fish is found in great abundance in all the clear mountain-streams, but never in those proceeding from or through the swamps. They seldom ever mount the Kizil Ouzan, which is more muddy than either the Kur, Terek, or Volga. We forded the river, with considerable difficulty, at its mouth, which had only four feet water, though it is twenty feet deep immediately within. At the sixth mile we passed the Shief Rood in a boat; the river was much the same size as the former. At three and a half miles forded the Noucandau, beyond which a number of small lakes run parallel to the coast; the water of these, which appears to filter through the sand into the Caspian, was drunk by our horses, and was scarcely brackish. At the ninth mile we were ferried across the Ali Kam, the largest river we had yet crossed, in which were three boats from Bakoo. At the fifteenth we arrived at the Dana Chall, which forms the boundary of Ghilan and Asalim of Talish. This stream is navigable for three miles up, and has always four feet water on the bar. We immediately turned into the forest, and halted at a fine village called Kulleserai. The last mile was very difficult, and our horses took an hour to perform it. On the following day we descended the Kulleserai river, which was only fordable at its mouth, and continued, as before, along the same bank of sand, here covered with grass, to the mouth of the Narrarau; and from thence to the Hindakan, where we turned into the forest through a very swampy, muddy road, to Minarabine, where we halted. This was a collection of four comfortable farm-houses, that would not have disgraced any part of Europe. From this it is eight miles to the Kirganarood river, the largest we had crossed since leaving Resht. Many boats were on the river, principally from Bakoo, or Baud-Koo. The district is very fertile, and a very practicable road, kept in good repair, leads up the river to Ardebile. The silk produced in Talish is of a very inferior quality to that of Ghilan; the people are more warlike and less industrious, and under little control. We were, however, hospitably and kindly treated, and had no difficulty in procuring what was necessary. Being in the constant habit of bathing in the Caspian, I found along the whole of the coast that, for 100 yards, the sea was not more than three feet deep, which increased, like a step, to six, and at a short distance to ten, the intermediate space being perfectly level, and the sand hard. Small fisheries are established on most of the rivers, and a considerable quantity of salmon is taken. I only saw two other kinds of fish, the bream (called seam, or silver) and a kind of carp, both of a very inferior quality. They never fish in the open sea, nor have nets fit for the purpose.

The herrings, though taken in considerable quantity in the Terek and Aras, are never found to the south of the last-mentioned river.

We continued our route along the sea-shore ; the weather was perfectly calm, and not a ripple was visible on the Caspian. We passed several small streams at their mouths, and observed a prodigious number of fresh-water springs at, or below, the level of the Caspian, the water of which had hardly the least brackish taste. At the ninth mile we turned into the forest to visit the old castle of Lissar. The forest was thick, as usual, but the ground hard and dry. We passed some very fine trees, covered with wild vines and hops, which frequently extended over three and four trees, but the grapes, now ripe, were small, and of a very bad quality. Almost every kind of fruit grew wild in abundance ; and this is perhaps the country from which the greater part were originally brought. The Castle of Lissar is situated on a low hill, two and a half miles from the Caspian, the whole summit of which it occupies ; the walls are well and solidly built, and appear anterior to the Mahommedan conquest. A covered reservoir is in good preservation, the water of which is probably supplied by springs in the mountain, as it is always at the same height, whatever quantity may be taken out ; the direction of the pipes, if they exist, is not known, and great care appears to have been taken to conceal them. There are no inscriptions, nor in fact anything remarkable about the building, which is still in very good repair. We halted at a few farms, called Numandan, on the Lissar river, an inconsiderable stream. During the night the rain fell in torrents, with a strong wind from the N.W. Towards morning the rain ceased, but the wind continued as before. We crossed the river by a wooden bridge, and soon reached the shores of the Caspian, where three very high surfs were running with great violence. At the eighth mile we came to the small stream called Khutwasera, which, on a former journey, I had passed without observing ; it now was a rapid, foaming torrent, bringing down stumps of trees and large stones. We were detained for three hours before we could get across, and immediately came to a headland, which here approaches the sea. When I last passed there was a space of at least fifty yards between the water and rocks, but at the present time the water broke occasionally among the bushes at their foot. As the distance around the point did not exceed thirty yards, and in the intervals between the waves a dry road existed, we were in hopes of pushing our cattle past ; on trying this, the leading horse unfortunately turned, when mid way, and the others stood fast—in an instant we were taken by the waves, and the cattle were swimming in the sea. Fortunately we escaped without further accident than the loss of a mule and its load, and being ourselves perfectly

drenched. We found a small farm, where we remained till the following day, when the wind having fallen, we crossed, though still with some difficulty, and at the fourteenth mile reached the Khevey river, which admits of boats of fifty tons. This is a large village, and before the building of Lankaran, the principal fort in Talish; it still possesses a good bazar, but the trade has nearly ceased. From this there is nothing remarkable to Astara, a small modern fortress, on a river of the same name, which for many years has been occupied by the Russians. The country has been cleared to a considerable extent, and much rice and cotton are cultivated. The Talish mountains are here lower than in the other parts of the range by 800 feet, consequently the ravine of the Astara river has been selected by caravans for the general line of communication, Lankaran, since its conquest by Russia, having become a considerable trading town. I found the difficulties of this road even greater than those of Rood Bar, the only object in choosing it being that it is something shorter, and the snow in the winter is not so deep as on the tops of the mountains; otherwise it is exceedingly steep, stony, and dangerous. This stream now forms the boundary between the Russian and Persian territories. At the fourth mile we passed the bridge called Pool Dullak (the Barber's Bridge), from having been built by a person of that profession. A Kadjar Khan affected to consider it below his dignity to pass it, and attempted to ford the river; his horse was carried down by the stream, and he narrowly escaped with his life. At the sixteenth mile of a continued and strong defile we came to the celebrated, though now abandoned fortress of Shindan, which, standing on the summit of a bare, isolated, and rugged rock, nearly 7000 feet in height, forms the leading feature of the range. On the western side alone it is accessible, where it is joined to the main range by a ridge which ends abruptly at this strong point. The lower part was formerly surrounded by a strong wall, with towers at very short intervals, which have crumbled down. The ascent is then by a steep rocky path to another level spot, which was also enclosed by a wall of stone; and within the ruins of a number of buildings some parts of the vaults still remain. A more rugged ascent leads to a flat stone platform, which is the highest part of the castle, with a cistern, and a single oblong building, the use of which it is impossible now to ascertain. From this height the Caspian actually appears at your feet, even the white foam on the beach can be descried. A mountain, which I can only suppose to be Demavund, bore S. 31° E.; Ardabile, S. 57° W.; Sevellan mountains, S. 85° W. The only means I had of ascertaining the elevation was by boiling water, which was 200°. We remained to take bearings until near sunset, in hopes of getting a more distinct view of the mountain we sup-

posed to be Demavund, which the distance seemed to render impossible; however, no mountain of the form or elevation, except that, exists in the Elbors range. Four miles from this we took up our quarters at the village of Khan Aga, and on the following day went to Ardabile, sixteen miles, over a fine green plain. I could not help remarking the perfect level of some part of this plain, bounded by a kind of bank of washed sand; and here no doubt was once a lake, which at last found an outlet by the bed of the present Kara Soo. The town of Ardabile, and tomb of Sheik Seffee, the founder of the Shea religion, has been too often described for me to mention them at present. The fine library was sent to Russia when the place surrendered to Count Soukhhtaline, and the tomb has been much damaged, at least in outward appearance, by earthquakes.

The story of the frozen prophet on the mountain of Sevilan, mentioned by Mr. Morier, in his second journey, having attracted the attention of the English gentlemen when at Ardebile, in the year 1827, a party of them set out on an expedition to ascend the mountain. The following account of it was kindly furnished me by Captain Shée, of the Madras Infantry:—

‘ After a ride of eighteen miles, we reached a camp of Illiauts, and had not been long seated before we perceived a party descending, which proved to be the Mulla Bashi of Tehran and Ali Khan, who had been sent by order of the king. They told us it was not worth our while to ascend, as there was nothing to see, and the difficulties were very great. From their fresh appearance we much doubted their having reached the summit, and determined on the following day at least to endeavour to accomplish our object. Two hours before daylight we mounted our horses, with two guides, and rode for six miles, when we were obliged to leave them, and proceed on foot. The mountain did not appear very difficult, but we soon found our mistake. After surmounting four distinct ranges, every one of which led us on, in hopes of being the last, we reached the summit by the E. S. E. side at 11 A. M., having been walking five hours, our guide, an old man of seventy years of age, being the first. On the top of the mountain, we found a tomb, consisting of stones neatly put together, and covered, except at one end, where a few stones had been removed to look at the body. In it we found the skeleton of a man lying with his head and body inclining to the right side (turning towards Mecca); the front half of the skull, the left collar bone, the left arm, from the shoulder to the elbow, with four ribs on the left side, were alone visible: some dried flesh and pieces of the winding-sheet were still adhering to the skeleton. The remainder of the body was buried in ice and earth. The skull was perfect, except some of the front teeth, which were lying

about the tomb; twenty teeth are still in their places perfectly even and beautifully white. There appears no doubt, that before the stones were removed the body was perfect, and that the remainder, which is buried in the ice, is still so. Having satisfied our curiosity, we proceeded to see an extraordinary stone, out of which (the Persians say) oil is distilled, and in a hole at the top a diamond is seen. After crossing about a mile of snow and ice on the summit of the mountain, we came to an amphitheatre of about 600 yards in circumference, containing a pond of the purest water; the sides were covered with snow, and long pendant icicles giving the whole a beautiful appearance. To the right of the pool, a little higher up, was a cleared spot, with a wall about three feet high, inclosing a stone of three feet in height by four in length, over which a quantity of oil appeared to have been poured; in its centre was a hole, which had the appearance of being used as a lamp, and in it a piece of lead, to hold a wick, which the Persians had called a diamond. Numbers of offerings were placed round it. Near it was another stone, with some rude letters cut on it. From the appearance of the place I concluded that, at some periods of the year, the Illiauts frequent this spot, and perform some religious ceremonies, making the stone the lamp. It took us three hours and a half to reach the place where we left our horses. We returned to the camp we had before left, perfectly persuaded that the Mulla Bashi had never ascended the mountain. Water boiled at 188° of Fahrenheit; the temperature in the tomb was exactly the freezing point.

As the mountain of Sevellan is much higher than any in Azerbaijan, excepting Ararat, I have ventured to give the letter nearly as I received it. The height given by my friend will be very nearly 13,000 feet, which, though it is greater than mine, I think fully as likely to be the truth; the thermometer used was the same I had employed on the Caspian. This mountain appears to have been a volcano, and perhaps the latest in activity in this quarter. The rocks near the mountain are decidedly volcanic, and extensive beds of lava are to be seen on the north side. There are, however, no remains of a crater now visible, which has been fully proved by the ascent. There are four distinct peaks or pinnacles so closely resembling each other as easily to be mistaken at some distance, which frequently gave me great trouble in the survey during cloudy weather. All round the base are hot springs, but not of a higher temperature than 104° . Business detained me at Ardabile for some months, during which I minutely surveyed the country as far as Tabreez. It has often been described by travellers, and its nature will be sufficiently shown by the map. The Persian officers, who were to accompany me along the frontier, being at last arrived, we proceeded

along the range of Talish mountains, one branch of which makes a sharp turn to Kara Daug; the other, which we followed, is lost in the plain of Mojan, in the district of Burzund. The greater part of this road, from Ardabile, had been over a very rich country, but totally abandoned as pasture to the great tribe of Shah Sewund, who would allow none but themselves to cultivate the rich lands of Geurney, Alzer, and Burgund. Our party assembled on the 5th of March at a small ruined castle, called Kizil Kulla (the red fort), where four streams join and form the Balarood river, which, traversing the plain of Mojan, loses itself in the marsh near the Caspian, above Kizil Agateh. As the distance from this point to the Aras was forty miles, it was difficult to pass it in one day, and still more so to halt, from want of water and the number of snakes which infest the plain. We descended the before-mentioned river sixteen miles, to a remarkable round mound of tumuli, such as are very frequent in the plain of Mojan, but whether artificial or not is difficult to determine. The grass was already making its appearance, and the different kinds of crocus, &c. absolutely coloured the ground. The nights were still cold, and the snakes had but partially begun to leave their holes. However, in warm, sheltered situations, we saw them in considerable numbers. I saw two or three vipers of a small size; the others were the common checked snake, called in French *couleuvre*, which, though most feared by the Persians, are not venomous. On a former journey, during the month of June, the snakes literally covered the ground. We made arrangements to halt one night in the desert, which, with the exception of want of water, has none of the characters of those of Arabia. The soil is generally clay, covered with high weeds, though, in some places, of the richest vegetable mould, with frequent mixtures of the same kind of shells found at the Caspian, from which we were then sixty miles distant. We halted at the sixteenth mile, near a small hill, Koiler Tipha (mound of the well), of exactly the same appearance as the former, near which a well had once existed; it was now filled up, but we found some water in a small pool, which the cattle were able to make use of. Our general direction was north-west, but no roads or track existed. The Illiauts had abandoned the central parts of the plain, and were only to be met with in the bed of the river Aras. I fortunately had provided myself with forage, for we found no grass fit for horses. On the following day we reached the banks of the Aras, where grass abounded, and halted near the hill of Aga Mazar. Game was very plentiful, and we had no difficulty in killing more than we required. The bed of the Aras is here of considerable extent (three or four miles), of which the water occupies a very small part; the remainder is entirely filled up by tangled forests, through

which the river runs in many branches, but you may frequently march for miles along the bank without being able to approach the water. At the twelfth mile we passed the ford of Yedi Baluk (seven districts), the best on the Aras, passable at all seasons. At eleven miles farther we passed the ruins of a considerable city, called Altun Tukht (the Golden Thrones), which has every appearance of having a much greater antiquity than the name appears to warrant. The works are of the most solid construction, and the bricks much larger than are observed in modern buildings. The fortress is one mile and a half in circumference, but there appears to have been an outer town or suburb. A canal had formerly conducted the waters of the Aras to irrigate the surrounding country, but it has long since been dry, and this city was finally ruined by Nadir Shah. From this we ascended the left bank of the Aras, here divided by numerous islands for eighteen miles; having passed the dry beds of four canals, leading from the Aras, we then came to the hill of Aslandoose (the plain of the lions), and encamped at the foot of the mound of Timour, erected by him. The top had lately fallen in, and showed an immense hollow tube or well of masonry, round which the earth appears to have been heaped. The bones of the slain in 1812 were still scattered thickly over the ground. A mile and a half up the river Karra Soo, sometimes called the Derra Yourd, is still to be seen the mouth of the canal dug by the army of Timour, which he called after his father, Hadji Berlas. This canal extended through the whole of Mojan, and for the time in which it was constructed (one winter) may be considered one of the greatest works ever executed. It can still be distinctly traced for sixty miles, and is, in most places, ten feet deep and forty broad. At a very small expense, it could again be opened, and the desert of Mojan converted into one of the most fertile districts of Persia. The Karra Soo at this season is almost entirely taken away in the cultivation, but in the spring it is a very considerable river. Along its banks is one of the principal entrances into Persia. The ravine certainly presents many strong features, but still it will probably be, in any future war, the main line of communication of an invading army. We ascended the river, which, as before, is divided into many channels among wooded islands. At the sixth mile-stone we passed the ruined village of Immaurut Melik (palace of the prince), where the hills approach the river, leaving only a narrow path; the country then opens to the village of Meralian, on the right bank. Eleven miles farther, through an open country of the finest soil, was another canal, also dug by the army of Timour when he wintered in Kara Baug, and rebuilt the city of Bellican, now called Biaut. This canal extended to the Kur, and was finished in forty days, being nearly fifty miles in length. From this it is

twenty miles to the bridge of Khuda Auferine (God Made), from a ridge of rocks, crossing the river, and on which the piers of the bridge have been built. This spot must be what is generally called the falls of Kresbar, or rather Aras Bar. This is the only place I have seen which can in any way be considered a cataract, though the fall does not exceed six feet, and is of very small extent. Half a mile above this is a much better built and more ancient bridge, constructed, like the former, on a ridge of rocks. My duty here ended. I crossed the Aras with the determination of visiting Tiflis.

Our route lay over an uneven but fertile country, much intersected by ravines, and at the sixteenth mile we halted at the large village of Dash Kussan, where we saw a decided change for the worse in the state of the peasantry, who, however, had only lately returned to their habitations, which had been entirely destroyed during the war. We passed through Ak Ouglan and a beautiful country as far as Askeran, where the river, coming from Shishe, loses itself among the reeds and marshes. This singularly built fortress appears to have been intended to shut up the entrance into the valley of Shishe, being built on the slopes of two opposite hills. From this we made an excursion to the ruins of Biaut, or Bellican, but saw nothing worthy of remark; it is evidently a modern place, and has been ruined about fifty years, the inhabitants abandoning it for the new city of Shishe, since become the capital of Kara Baug. Nothing could exceed the richness of the soil or luxuriance of vegetation, but it was totally waste from the constant incursions of the Persians during the late war. We continued our route over a country covered with what might be called forests of gardens, now growing wild, where a few miserable peasants were again rebuilding their ruined dwellings, and at the thirty-eighth mile we came to the town of Berda, on the Tartar river, situated near the ruins of an extensive fortress, the walls of which are still nearly perfect; distant fourteen miles from the river Kur, which must be much lower than the Aras. Water boiled at $211\frac{1}{2}^{\circ}$, and the productions, (pomegranates and figs,) growing wild, showed a warmer climate than the banks of the Aras. The plain was as level as the sea, with a belt of thick forest on the banks of the Kur, a deep and broad, but sluggish stream. Having been directed to these ruins as something remarkable, our disappointment was proportionate. The Arabic inscriptions showed a date of about five hundred years. We now directed our course to Ganja, where we arrived on the second day, a place rapidly going to decay, though there are still the remains of some fine buildings, and a magnificent avenue of plane-trees. The situation is considered very unhealthy, and the Russians have, in consequence, withdrawn

their garrison. Near this are two German colonies, and the population now consists principally of Armenians. This place could never represent the defile in which Cyrus was killed, the plain being twenty-four miles in breadth, and offering no strong pass, except towards Erivan. Sixteen miles from Ganja, towards Tiflis, we passed the ruins of an extensive city, called Shumkher, where still stands a minaret of beautiful workmanship, seventy feet in height. The walls appear to have been of a much earlier date, and in the old Persian authors it is described as the principal city in this quarter. There are here only Arabic or Armenian inscriptions. We halted at Zagun, twenty-four miles distant, an extensive and well cultivated district, almost entirely inhabited by Mahommedans of the Shumsadineloo tribe. On the following day we reached the banks of the Khram (so called from abounding in mullet), over which there is a fine bridge, and near it the ruins of one, said to have been built by the Romans. During the last three days we had a beautiful view of the Caucasus on our right, covered with perpetual snow; on the left the wooded mountains of Kara Baug and Georgia. From here it is twenty-four miles to Tiflis, which entirely occupies the strong defile of the Kur, and more resembles the place where Cyrus is reported to have met his death. Perhaps no town is making more rapid advances in prosperity and wealth than Tiflis since its occupation by the Russians, notwithstanding its confined and disadvantageous situation. It is too well known to need a description here. In 1829 it contained 27,000 inhabitants. I have often heard it asserted that more women than men were born in Asia. In Georgia I had an opportunity of ascertaining the contrary. There are 12,041 Armenian families in the kingdom of Georgia and surrounding dependent districts, of which very exact returns have been procured, and shewed 39,274 males, 34,027 females. A very considerable proportion of the Armenian men are always absent on business of trade, and frequently do not return for years, so the proportion is probably still greater. In Shirvan, there are 1688 families (Christians), 5337 males, 4143 females. I have many more returns of the same kind, which invariably give a similar result. Being sufficiently recovered from the effects of the Ghilan fever, we quitted Tiflis on the 3d of March, in hopes of accomplishing our journey to the Black Sea before the melting of the snow should have rendered the passage of the mountain torrents dangerous. The first day we halted at the ruined city Meschiti (thirteen miles), formerly the capital of Georgia, which has no building worthy of remark, except two fine churches, in which were buried all the sovereigns of Georgia. At this point the Kur and Aragua unite, as do also the roads

from the Black Sea and Russia; over the former is a bridge, said to have been built by Pompey. We ascended the left bank of the Kur, which runs at the foot of some very high mountains, leaving only space for a narrow and difficult road, though there are, occasionally, recesses, in which are situated villages, only inhabited since the Russians have possessed the country, it having always been particularly infested by the Lesgues. At the twentieth mile we passed the small plain of Howly, and at a distance of seven more forded the Kur, near the beautiful little town of Cori, with its romantic castle, built upon a rock overhanging the river. Nothing can exceed the beauty of the situation of this place. To the north a fine, well-inhabited plain extends to the foot of the Caucasus, whose summits present the most fantastic peaks, covered with perpetual snow. To the south runs the Kur; and beyond it are a range of mountains beautifully wooded, and some superb monasteries built in commanding situations. The rapid torrent of the Liafa adds considerably to the effect of the scenery.

This place is rapidly rising into importance, and a regiment of grenadiers quartered here effectually prevents the incursions of the mountaineers. Our route lay over the fine plain of Kartuel for twenty-eight miles, when we reached the tower of Souram at the entrance of the pass leading to the Phasis. The castle, situated on the frontiers of the Turkish province Akhaltsick and Immeretia, was of considerable importance; but both provinces being now under Russia, it at present only forms a picturesque object, and is rapidly falling to decay. We continued ascending the pass through a forest of dwarf oaks for six miles, when we reached the summit of a chain of mountains, which separate from Mount Caucasus, and whose ramifications extend through Persia and Asia Minor. Their height did not exceed at this point six thousand feet, the streams to the east falling into the Kur, those to the west into the Phasis. Our descent was much more rapid; at the sixth mile we reached the station of the Maletza, where there is a military post and some artillery. The snow had now begun to melt, and the road was detestable. The Russians, with great labour, have cut a pass along the brow of the mountain, and thrown many bridges over the ravines, besides clearing the wood on both sides, to prevent a surprise from the inhabitants, who, at one time, were very hostile. The Russian power has, however, now firmly taken root in this country, and travellers have nothing to fear (1825), which was far from being the case six years ago—(in 1819 I saw six dead bodies in the pass, and was myself repeatedly fired at). At the third mile we reached the bed of the Quirilloff, (a branch of the Rion or Phasis,) where an excellent road had been newly made along the banks of the river, and after five more we passed a Cossack station of the same name. The

valley was most beautiful, and gommei or millet was cultivated to a considerable extent. The valley gradually extends, and numerous villages are seen on the hills. Vines are extensively planted, and numerous herds of swine were feeding in the woods, which consist chiefly of beech and oak trees. At the twelfth mile we passed the town of Sharapan, said to be built upon the site of an ancient city; if so, there are no remains to indicate it. A few churches and a thin stone wall constitute its only buildings, except wooden huts and the Russian barracks. Immediately beyond this passes the main branch of the Quirilla, which comes from Mount Elborus, and perhaps contains more water than the Phasis, into which it falls. We were detained four hours on the banks before the raft on two canoes could act, and then crossed a range of hills containing one of those mud springs, so common on the north side of the Caucasus. From this it is twenty-six miles to Kautais, the capital of Immeretia, and head-quarters of a Russian division. The ruins of a once splendid cathedral, and the old Turkish castle, gave, when seen from a distance, an imposing appearance to the town of Kautais, which was entirely destroyed on entering it. The Russians have laid out broad and regular streets, but the houses are for the most part log huts, or wicker plastered with clay. The population has more than doubled in five years, and an extensive market is established, frequented by all the neighbouring mountaineers. The people are in the most abject state of slavery, miserably poor, and consequently idle and careless. The Rion or Phasis is here about thirty yards broad, but is not navigable, from rocks and other obstructions. On the piers of an ancient bridge, whose date is not known, the Russians have placed a wooden arch; but this is all that now remains of the thirty, said once to have crossed this celebrated river. I ascended the Rion some distance to look at the gold mines, but only found some shafts and furnaces, with some signs of copper; the ore of that metal is still found, but far inferior in richness to the mines of Georgia. If gold ever existed I think it must have been on the Quirilla, and not on the Rion. These two rivers join at the Georgian castle of Gwertsziche, twelve miles below Kautais, from which they take the name of Phas or Rion, and are then navigable for boats at all seasons; from this to the sea the river has no obstructions, is generally from twenty to thirty feet deep, and the current about two miles and a half an hour. The country appears perfectly level in many places—the banks are higher than the surrounding country. Their appearance would lead to the supposition that the river was formerly confined by embankments. In this province more rain falls than in any other part of the shores of the Black Sea; and the streams, having their sources in the high mountains of the Caucasus, are subject to periodical rises

on the melting of the snow, as well as sudden ones from the numerous mountain-torrents which every where intersect the country, and render floods very frequent in its vicinity. It is nearly as unhealthy as Ghilan; but, being still worse governed, it can in no way compare with that province in produce or the industry of its inhabitants. As long as the feudal system exists with the present severity, little improvement can be hoped for. We proceeded from Kautais along the military road to Marinai, a considerable Cossack station on the Itskhini Itskali (Horse River), the largest of all the tributary branches of the Rion, and the boundary of Immeretia and Mingrelia. Three miles below this it falls into the Rion or Phasis, which is navigable from this point for boats of sixty tons, and might, except for the bar at its mouth, where there are only six feet of water, be so for the largest vessels. Twelve miles below the junction there is a considerable island, on which the Russians have a naval port, magazines, &c. We crossed the Rion at this point, and after a most fatiguing march of ten miles, reached Lanskoum, a well-peopled district in the states of the Prince of Gouriel. The road was nearly as bad as the worst in Ghilan, and we were six hours performing the journey. The difficulty of feeding our horses induced us to send them back to Kautais, and we embarked in a canoe and descended the Pitschori, which appears to me to have been an ancient canal. In ten hours we reached the Russian fishing station of Paristan, near a great lake, which, like that of Enzilli, communicates with the sea. We now entered the Rion or Phasis by a shallow channel, and descended the river for three hours, when we reached the Russian fort of Riauski Prista—a post at that time intended to watch the Turkish fortress of Poti (taken during the late war, and the Russians now possess the uninterrupted navigation of the Phasis). From this it is eight miles to Reduit Kalla, at that time the principal Russian station on this part of the Black Sea. The fortress stands at the mouth of the Kalla. This river is not more than thirty yards broad, but has twenty feet within, except on the bar, where the water varies with the floods, or more properly the wind, from four to seven feet. The bar is of sand, and of no great extent. The Kalla has eighteen feet of water for forty miles, and the current is scarcely perceptible; it consequently overflows the town and surrounding country, which is an absolute marsh during the greater part of the year. The climate is very unhealthy, and the Russians generally lose one-fifth of their men per annum. This is unfortunately the case to a still greater degree on the whole of the western coast, and Reduit Kalla will probably soon be altogether abandoned for the new position of Poti. The shores of the Black Sea are, like those of the Caspian, very shallow, and vessels drawing only ten feet of water

must lie one mile and a half from the shore. A current runs from south to north; the surf is much less here than on the Caspian. The Black Sea has also the advantage of being perfectly free from sands and rocks. A moderate breeze generally blows off shore from ten in the morning until mid-day, but hard gales are almost invariably from the westward, when the sea rises four feet. The country is so perfectly low, that a fresh wind on the sea at the same time causes the rivers to overflow their banks. The anchorage is exceedingly exposed, but the ground is not bad. Some time before our arrival a Russian transport was driven on shore and totally wrecked (sixty lives lost). The Russians, by the late treaty, now possess the whole coast of Circassia, that is, as far as the Turkish cession can give it them. The Turks never had more than a few fortified stations for the purpose of procuring slaves, whom they exported into Turkey to the amount of several thousands annually, and to this trade, more than to any other cause, may be attributed the savage ferocity of the Caucasian nations. A very considerable portion of these were Russian subjects. As late as 1819 it was unsafe to walk far from the military station, and a Georgian lady was carried off by the Turks at Poti. Having made the necessary observations for ascertaining the longitude, latitude, and variation, I found the latter rather less than stated by the French navigators, but do not pretend to assume mine as being more correct than theirs; my observation both by the sun and a star gave from $4^{\circ} 40'$ to 5° ; the weather was unfavourable, but I do not think this far from the truth. All people coming from Poti being subject to quarantine, I was not able to visit that station by land, but procured a boat, and proceeding down the Kalla found no obstacle from the surf. We then rowed down the coast, and at the seventh mile reached the north branch, which is shallow, and used only by small boats. The southern branch has always six, and sometimes ten feet water on the bar. The island, which is formed at the mouth of the Phasis, extends very little into the sea, and is of small extent. The celebrated temple at the mouth of the Phasis stood, I should think, on the spot now occupied by the castle of Poti, which has most probably been built out of its ruins. It stands on an elevated spot, and to construct it (had such a building not existed) the materials must have been brought from a distance. The signs of civilization have vanished more than in any country I have ever visited. Not a building exists on the banks of the Phasis, said at one time to have been covered with cities, bridges, and temples. Sixty miles to the north of the river the Russians possess a considerable station in the country of the Abbas; and near to that the cape of Iscuria and adjoining ruins clearly indicate the site of Dioscurias, so cele-

brated in the Roman history. There is, however, nothing here that would indicate that a city ever existed of sufficient importance to require the services of one hundred and fifty interpreters as described by Gibbon. All access to this part of the country is now impracticable, except by sea. Prince Gochakoff, who with a considerable military force, succeeded in marching by land along the shores of the Euxine, with great difficulty reached Sokhumkulla, and returned by sea.

These mountaineers will not, however, be able long to withstand the gradual advance of the Russians, both from the north and south. The death of every chief occasions a feud in the family, and they generally refer it to Russia, which is every day gaining ground along the whole extent of the mountains. Nothing but the conquests of Russia could have saved the Christian states of Georgia from utter destruction. Bravely as they for a long time defended themselves, they were gradually weakened. The mountaineers, supported by Turkey, daily became more bold and successful in their incursions, and when defeated were certain of support and protection from the Turkish pashas, by whom bands of kidnappers were maintained. The persons of the inhabitants were the sole object of plunder; the destruction of these miscreants at Akhaltsick, Akhiska, Poti, and Anapa, has for ever put down the trade. Considering that Russia has only possessed this country for twenty-five years, and that during almost a constant succession of wars, it is astonishing how much has been accomplished; and where a traveller complains of the bad roads and difficulty of travelling, let him read the description of Chardin, which would fully have answered to that of 1805. You may now travel in perfect security with *post-horses* from the mouths of the Phasis to the Kur and Caspian. My observations, made with boiling water, gave the Black Sea precisely the same level as the ocean (212° Fahrenheit).

On the 15th of April we embarked on the river Tzic, which enters the Kalla or Koppi, one mile from its mouth. This river, which has the appearance of a muddy ditch, traverses the great marsh, which extends nearly to the Phasis; we navigated this stream to within one mile and a half of the village of Khiladid, where carts drawn by bullocks took us the remainder of our journey. We now engaged a boat to ascend the Phasis as high as Merani. Heavy rains and an easterly wind rendered our progress very slow, being obliged to track up the river, and never able to use a sail. After twelve miles we passed two considerable islands (probably the ancient preserve of pheasants); at twenty-six miles farther, the mouth of the Tekouri, coming from N. N. E.; and at fourteen miles beyond the Russian station of Kodori, four miles from which the Khenis Kari joins from S. 35 E. At eleven miles farther is another small island, and at

nine miles farther still, the Pilchori joins from S. 75 W.—whence it is two miles to the military station of Merani, on the Itskhini Itskali, which is navigable for six miles to the old station of Merani. From this I returned by the same route, as before-mentioned, to Kautais and Tiflis, where we arrived on the 1st of May. The rivers were down, and the route difficult and arduous. Severe indisposition detained me for two months. Before leaving Tiflis it is as well to mention all I have been able to observe myself, or to learn regarding the passages over the Caucasus, and those by the Black Sea and Caspian. Along the shores of the Black Sea no obstacle whatever exists to a road being made, and the only difficulty at present is caused by the numerous rivers which every where descend from the Abassian mountain. As along the Caspian, a hard bank of sand, of considerable extent, divides the swamps from the sea; but the rivers, without boats or bridges, are totally impassable. This passage was formerly defended by the strong fortress of Dioscurios and the present town of Anaklia, from which a chain of forts and the ruins of a wall extend towards the Caucasus. Though numerous paths lead over the Caucasus, yet they can only be traced by hunters, and even then with the aid of the people of the mountains. Up the Phasis a road exists by the Dirgar Circassians, but it is necessary to cross a plain, which, during nine months in the year, is covered with deep snow and ice, and it is not practicable for any large body of men. At Gori a valley leads up the Caucasus, through which the Russians propose making a road, but hitherto it has only been frequented by the mountaineers, and never in general use. At present men on foot can alone traverse it; but with the assistance of a few bridges over deep ravines, the chief obstacles will be removed. To the river Araga the appearance of the mountains is sufficient proof that no generally useful road can exist. On reaching that river, a fine broad valley leads to the defile at Anarore, which is not difficult. This outer valley of the Caucasus leads, by a gradual ascent, to the Mountain or, more properly, Pass, of the Cross, as the peaks on each side are two thousand feet high. The ascent by the new road, made by order of General Paskewitch, is easy for a carriage, as is also the descent into the ravine of the Terek. Three miles lie through a narrow ravine, bounded by high schist rocks. This pass is dangerous in the spring from the frequency of avalanches, which carry away the road. It has been cut with considerable skill and expense. There are, however, two other ravines leading into Georgia, but they are at present only used by the mountaineers. At the junction of these ravines is situated the post of Kodi. We were much struck during the last thirty miles with the density of the population in this cold and inhospitable region; not a vacant spot was to be seen, and villages were thickly scattered

over the mountains, all of which were fortified, or had a high tower in the middle, which served as a refuge in case of attack, or to watch the surrounding country. Rye, barley, and wheat, grow at the height of 7500 feet; the latter seldom comes to maturity; a few stunted bushes and vast quantities of the rhododendron were the only wood to be met with. Our route lay for eleven miles on the banks of the Terek, the road generally good and the valley well cultivated, till we arrived at Kasi Beg, a considerable village at the foot of the high mountain of that name. It contains twelve hundred inhabitants, principally Ossitinians, and near it is the celebrated monastery of Stephen Zeminda, built immediately over the valley of ice extending to Kasi Beg. The route now became more difficult and rugged, and the valley gradually narrowed, till it became, at the eighth mile, a mere chasm, through which the Terek appears to have forced its passage. To the right and left are stupendous rocks of schist, which frequently fall, and for a time dam up the course of the river; the accumulated water soon carries away the obstacle, and occasions an inundation in the valley below. At the entrance of this pass stand the post and old castle of Dariel, which I have no hesitation in deciding to be the site of the *Pilæ Caspiæ*. Here the features of the pass are strong and impregnable; the rocks approach so near as hardly to allow the foaming Terek a passage; and the mountains are scarped and impracticable, except by the narrow road leading directly under the walls of the castle, which are ancient and well built.

Both sides had been formerly occupied, and the fortifications are clearly intended to shut up the entrance of the valley. This spot is about 4000 feet above the level of the sea, and the highest ground over which we passed about 8000 (Mount of the Cross). Below this, the construction of the military road was a task worthy of a great nation, and the execution of it does credit to the officers by whom it was made. The forced and ill paid labour exacted from the mountaineers has been a great hardship upon them, and has occasioned much of the bad feeling of the Christian and heathen Ossitinians to the Russian government. If these abuses were corrected, it would do more to conciliate the country than any other measure. Below this, to Vladi Caucasus, though there are many strong points very difficult for a traveller, the mountains are accessible to the right and left, and would not have answered the purpose intended by the Caspian Gates. From the pass of Dariel the country is wooded and fertile, but these advantages are rendered of no avail by the constant wars of the Circassians. Miles may be traversed over the richest soil without seeing a vestige of human habitation; such, however, must invariably be the result where a Mohammedan population exists in the neighbourhood of a Christian state.

The only other pass between the Black Sea and the Caspian

is the celebrated one of Derbund, which has frequently been described. The upper castle of Derbund is built on an abrupt rock three miles from the shore, and the other is close to the water, (some people say the exterior ruins are visible even below the present level of the sea). These castles are connected by a double rampart, connecting, like the long walls of Athens, the citadel with the port. To what era the original works are to be attributed it is impossible now to decide, but I imagine anterior to Cyrus the Great. The foundations of these walls are composed of immense stones, and a jétty appears at one time to have extended into the sea.

It is practicable to turn this position, by a road, a few miles distant, through the mountains, and some remains of a wall are visible, which probably extended to a considerable distance in the Caucasus, here forming the most difficult mass of the whole range. The Caucasian nations were never more than nominally under the dominion of any one government, and it is only within a few years that Russia has fully occupied these important defiles. Besides them there are several mountain paths, which can only be traversed with the aid of the inhabitants, the most practicable leading from Upper Kakhetia, through the country of the Terek and Kisti, to the river Soundja and Kislar; the others by Balikan, through Kasi Komauk, along the Kai Son, to the same place. The followers of Alexander Mirza (the last prince of Georgia not a prisoner), who found an asylum in these mountains for three years, deemed them impracticable for horsemen, and difficult even for infantry; during eight months of the year they are absolutely impassable.

Taking leave of Georgia with great regret, we proceeded by the bridge over the Khram, which I had before crossed; we then turned into the valley of Akistafa, and at the fiftieth mile from Tiflis came to the village of Karavanserai, situated at the entrance of the strong defile through which the river forces its passage. We proceeded twelve miles up the finely wooded basaltic valley; it then opens into a rich and fertile country. At the sixteenth mile we halted at Dalligan, once a large village, but ruined in the late war: here we turned up a tributary stream of the Akistafra (the gun-road cut by Nadir Shah), through a glen thickly wooded and difficult. At the eighth mile we reached the top of the mountains, which are a branch of those we crossed at Souram, and on the shores of the Caspian. We now rapidly descended to the banks of the lake of Goukeka or Sevan, and encamped opposite to the island and monastery of the same name, having previously crossed a small stream called the Paluk Chic, from a fishery established at its mouth. The monks, after some hesitation, sent their rafts to take us to the island, distant 1200 yards from the shore. We lost soundings with 400 feet of line, soon

after pushing off, and the lake had the dark blue appearance of deep water. The island is three miles in circumference, inhabited only by the people attached to the monastery, considered the most ancient in Armenia. A small cell is shown, said to have been inhabited by one of the apostles; be that as it may, no situation could have been better chosen for religious retirement than this island, probably once wooded, and capable of producing support for a small number of inhabitants, having a lake abounding at all seasons with the finest fish. The part we crossed appears to be the deepest part of the lake (the north entrance), and many rocks, a little below the surface, run across the centre, and would probably obstruct the navigation. There are no boats on it, and until lately the shores were abandoned to the wandering tribes, who found abundant and excellent pasture. Having procured a guide from the convent, we set out on a journey round the lake; and returned along the brow of a precipice which overhangs it for three miles, but on which a road has been constructed by the Armenian patriarch practicable for carriages. At the fourth mile descended into the valley of Chubukloo. At the eighth, crossed the Paluk Soo stream, near its mouth. For twenty-two miles the road continued over a beautiful meadow, when we ascended the low range of rocky hills, called the Gun Bakhau (exposed to the sun). For some time we followed a narrow winding path which hung over the water, here shallow, and the bottom shelving rocks. After five miles of difficult travelling we turned away from the lake into the Phulat valley (steel valley), now covered with the tents of the Shumsadentoo tribe; and seven miles farther encamped at the ruined village of Tokliga, situated in a narrow ravine, which runs to the lake, distant three miles.

We again quitted the banks of the lake, and marched through some fine pasture land at the head of the Tersî river; and at the ninth mile we reached the summit of the Giller Danish, immediately behind the promontory of Ada Tîppa, which runs a considerable way into the lake, and another headland on the opposite side reduces its breadth to six miles. A range of rocks is visible from the high ground, extending nearly across, and but little below the surface. The promontory of Ada Tîppa, and the mountain, are partially wooded. There is a considerable extent of fine land on the banks. Seven miles farther we passed the ruins of Patriarch Bund—except the churches there are no remains of any consequence. Several of the tombstones were eight feet high, and covered with inscriptions in Armenian; some of them bore the date of the thirteenth century, and generally contained a brief account of the lives of those buried there. From the beauty of the country, excellence of the pastures, and coolness of the climate, this town had frequently been the residence of the

kings of Armenia, and the borders of the lake were formerly covered with sixty populous villages. The churches still exist, and attest the progress Armenia had once made in architecture. Three miles from this we came abreast of a small lake, situated at the south-western extremity of the great one, and communicating with it. Into this flows a considerable stream, called the Sogut Soo (or willow stream.) We ascended it for eight miles, to the pass of Yelliga (the winds), which divides Erivan from Kara Baug. The Tartar rises near this, in the mountains of the hot springs, but the ruins we were in search of proved to be of no consequence, and had no pretensions to having been the site of a Roman post. Following the range of mountains for six miles, we came in sight of a lake twelve miles in circumference, the banks of which are exceedingly abrupt and rocky; from this cause it is called the Black Water, and is situated at the foot of the lofty mountains of Dikcha Billekan (the top of the ladder). The Armenians consider this as the Tower of Babel, and point out the lake as the place from which the earth was dug to raise it. Our camp showed no bad specimen of the confusion of tongues, for among forty-four persons there were seven different languages—Turkish, Persian, Kurdish, Armenian, Georgian, Lesgue, and English. The climate was exceedingly cold, and it froze hard at night. Many of the party were here attacked by a malignant bilious fever, and there was great difficulty in removing the sick to the banks of the lake of Koukcha, where we were detained for ten days; two of the party died, and I was obliged to send to Erivan ten others, who did not recover for many months. I was less violently attacked, and as this was an occasion that might never again occur, I determined to continue the journey through this hitherto unexplored chain of mountains.

A small stream flows out of the Black Lake into the Sevan, but we found the ravine impracticable, and crossing a range of hills covered with pasture, but totally devoid of wood, entered the Gazell Derra (beautiful valley), and encamped at its mouth. The lake here is shallow, with a rocky but level bottom; the stream absolutely swarmed with fish, particularly trout, of which there are several distinct species, which are said to succeed each other all the year. One kind is frequently taken of sixteen to twenty pounds weight, and has every appearance of salmon. Besides these there are two kinds of mullet, and also carp and barbel. I never saw or heard of pike, perch, or eels; dace, gudgeons, and other small fish, abound.

Our party being at last able to move, we proceeded for seven miles along the banks of the lake to the river of Ada Yaman (bad name), by far the largest stream falling into the lake, near which once stood a considerable Armenian town. Convents and

churches were thickly scattered on the surrounding hills. Three miles from this, on the shores of the lake, is the camp occupied for two months by Nadir Shah. The intrenchments are still visible, and it appears to have been placed with regularity. Near it a small rock has been pierced to allow a stream to run through, but for what purpose it is impossible now to ascertain. We still followed the lake to the stream of Kabar, where a headland runs a considerable way out, opposite to the promontory of Ada Tippa, which reduces the breadth of the water to six miles. High perpendicular cliffs of lava here prevent the passage near the lake, and our horses suffered much from the steepness of the stones. We were struck with the vast quantity of obsidian scattered over the country. At Ak Kulla we again approached the lake, and found the shore covered with very light pumice stone, which floated on the water. We rounded a deep bay, and came to the spot where a branch of the Zengue flows out of the lake. That river derives but a small portion of its waters from this source, which is said to be artificial. *That*, however, I do not believe; at the same time, the ravine, having a very rapid fall, the quantity of water could be augmented at pleasure, and, if it served any purpose, a considerable part of the lake be thus drained.

We were now very near the island of Sevan, from which we had set out, having measured by perambulator or chain the whole distance. The greatest length is from Chubukloo, bearing S.E., to Sogut Soo (forty-seven miles); the breadth varies much: at Ak Kulla it is sixteen miles; at Ada Tippa, six; and the greatest, from Nadir Shah's camp to Patriarch Bund, twenty-one. The latitude of the island of Sevan is $40^{\circ} 30' 30''$, but the lake extends to $40^{\circ} 37' 15''$: the southern extremity is in $40^{\circ} 9' 40''$. Water boiled on its banks at 202° , or 5300 feet above the level of the sea. It was partially frozen in the month of January, 1813. I cannot offer an opinion from whence the great and well-marked volcanic remains could originate, but it is evidently from no great distance. Where there is soil, it is light and of the richest quality. The Russian government have, I believe, the intention of removing 20,000 families of Cossacks to the banks of this lake, and the range of mountains on the frontiers of Georgia.

We descended the Zengue for thirteen miles, to its junction at the caravanserai of Soudagan with the principal branch coming from the Derra Khichick. The united streams form a considerable river, flowing for thirty-four miles through a basaltic valley to Erivan, and then through the level plain of Erivan, at twenty-four miles from which town it falls into the Aras.

We ascended the Derra Khichick, so called from the abundance and beauty of its flowers. The sides of the mountains are covered with forests, among which are visible numerous round churches.

For twenty miles the road was good and the soil excellent. We then passed some rich copper mines, now no longer worked. We next entered a narrow ravine, soon after crossed a high range of mountains, and descended into the plain of Abbaran; where at the fifteenth mile we halted at the old camp of Nadir Shah, which he occupied before the decisive battle of Arpa Chie. This plain, or valley, is between 5000 and 6000 feet above the level of the sea, and the lofty mountain of Ali Guz bounds it on the south. It is constantly covered with snow, and is little inferior in height to Sevellan. From this a long, fatiguing march of thirty-two miles brought us to the banks of the Arpa Chie, opposite the great monastery of Kockevang, having only passed one stream of water in our journey. The ground was covered with luxuriant grass. The whole of this tract appears to rest on a basaltic base, and the river flows through a deep ravine of the same. On one of the bends of this river stand the monastery and fortress, which are of considerable extent. The Beg of Magasbaerd, a Kurdish chief, came to escort us, on the following day, to the ruins of Ani, for many years the capital of Armenia. The limits of the present journal will not allow of my entering into a detailed description of this remarkable place. Three miles from the convent we came to the walls of the city, which were built of a soft red stone, in the best style of architecture; they are still perfect, except where the breaches were made by the Tartars, and the stones used in battering them are scattered about. The walls had a fresh and finished appearance, notwithstanding the battlements had in many places been destroyed by the machines of the Tartars, and the soft stone bore marks of the force with which arrows had been discharged at the loop holes. The city was defended on the side of the Arpa Chie by a perpendicular rock of basalt, and a deep ravine on the west equally protected it. On the north was a double wall (no ditch) of hewn stone, and to the south a fortified citadel or palace. Some of the churches were of the grandest description, and six still perfect. The largest was 100 feet in length and 60 broad, and appears to have been surrounded by extensive cloisters. On one I remarked an inscription in the Greek character, but imagine it must have been in some other language, as I have never been able to get it decyphered. (The Armenians at one time used the Greek character.) A branch of the ravine to the west is composed of very soft sand-stone. It has been excavated into numerous chambers, joined by a gallery, with windows hewn in the side; they extend for a quarter of a mile. At present it is impossible to determine to what use they may have been put, as the whole rock has, in like manner, been excavated, though in no other place to such an extent. There are several buildings which may have been theatres or public buildings; but the gene-

rality of the houses appear to have been constructed of rough stone, without any fixed plan. The statement of its population (400,000), as given by the Armenians, must be greatly exaggerated, it not being more than six miles in circumference, and having no remains of suburbs except the caves before-mentioned. I passed two days at this interesting place, and on the third we accompanied our Kurdish host to his castle of Magasbaerd, built on one of the commanding cliffs so frequent in this river. He was at that time in open revolt against the Pasha of Kars, but received us with kindness and hospitality.

Having, on a previous occasion, followed the course of the Arpa Chie, which invariably presents the same feature of flowing in the deep bed of a basaltic ravine, with numerous ruined castles placed on abrupt rocks, till near its junction with the Aras, at Hadje Byram Soo, I struck off to Taloon, where extensive ruins were said to exist. The distance was thirty-five miles of a stony, but otherwise good road, totally destitute of water. The Persians were at this time busily employed in constructing a fortress round a fine old castle, built in the best style of Armenian architecture. The walls are forty feet high, and entirely constructed of hewn stone. Considerable ruins, but of no importance, extend to the south, but we found no Roman or Greek inscriptions. On a high hill to the N.W. is a very ancient fortress, called the Goat's Rock; and two miles east of it, another ruined town, called Old Taloon, in which still remain three good churches. From this we proceeded to Hadje Byram Soo, determining to follow the course of the Aras, and ascertain, if possible, the position of Artaxata.

Immediately in front of the junction of the two rivers stands a castle, on a high rock, called the Kiskulla (Maiden Fortress), but differing in no respect from the numerous castles to be met with in Armenia; and about five miles to the westward the celebrated fortress of Koor Ougley, the residence of the Robin Hood of Armenia. Like the hill-forts of India, it could only be reduced by famine, and has more than once served as a retreat to the Kurdish chiefs of the neighbourhood. Its antiquity is probably far beyond the Christian era. Descending the Aras four miles, we passed the entrance of the valley in which are situated the salt-mines of Kulpia. They have for many ages supplied Georgia, and even the Caucasus, with that necessary article. The salt is so abundant, that the people have hitherto had no occasion to go to any depth. A range of hills, bordering the valley on the east side, is apparently entirely composed of that mineral, and in the sides of these, numerous excavations have been made. Under the Persians, these mines were farmed for 3000*l.* per annum, and a village of 100 families was employed exclusively in working them.

Three miles from this we reached Kara Kulla, near which are the ruins of a bridge. This is generally supposed to be the site of Armavera. On three sides, the perpendicular cliffs of a ravine, and the Aras, rendered walls unnecessary; the western side was defended by a strong and lofty wall of well-built masonry. The works enclose a space of two miles in circumference, but narrow, and containing only one large building on the western front, where the ravine joins the Aras.

I proceeded twenty-seven miles south of this, to examine a great lake in the mountains, which I believe has never been mentioned by any traveller. Our route, for twenty miles, lay in the valley of Eiramloo, gradually rising and well inhabited; we then began the ascent of the Mosian hills, which join to Ararat, and at the fourth mile we reached the summit. The lake appeared at our feet, but it was three miles before we reached it. The circumference is twenty-four miles, and the banks are destitute of wood. High rocks, in many places, prevented a near approach. This is the only water in Persia where I have seen the char, or yellow trout. At its western extremity a stream runs out, passing Byzæed and Makoo, and ultimately falling into the Aras. Not a human habitation was to be seen, and the country is only frequented by the Kurds during the summer. The elevation shown by boiling water was 6000 feet. We returned by the same route, and halted at the village of Arab Kerry, where there is a ford passable at all seasons of the year. We here crossed to the right bank, and examined some ruins on the remarkable hill called Tippa Dieb. They appear, at one time, to have occupied the whole summit of the hill, and on the highest point a solid building of hewn stone can still be traced; it is reported (and its appearance confirms it) to have been built before the introduction of Christianity. We followed the Aras to its junction with the Kara Soo, a very considerable river, rising near Itsmiasdin, from marshes and springs in the plain. The river is only fordable at one place, seven miles above this, and for some time runs parallel to the Aras, presenting an excellent position for a fortress. Three miles below the Zengue also enters the Aras, which now becomes a broad and deep river. We went to the monastery of Itsmiasdin, situated on the ruins of Valarsapat, a royal residence of the Armenian kings, in hopes of obtaining some information regarding Artaxata, Tovin, and other cities which formerly existed in this province. I sent one party to the mountain of Ali Guz; they reported having seen the ruins of a strong wall high up in the mountains, containing some churches and a confused heap of other buildings, but only with Armenian inscriptions. The fortress was two miles in circumference, and situated only a few hundred feet below the region of snow. They returned by Kerpey,

and joined me at the ruins of Guernay, a description of which may be found in Moses of Chorenæ. This city was destroyed by Timour, who, with great labour, pulled down the magnificent temple of Diana. The columns are beautiful specimens of the Corinthian order, and might soon be replaced. But both this and the seven churches have been described by Sir Robert Ker Porter and Mr. Morier. The valley of Guernay presents some of the finest specimens of basaltic columns I ever saw.

Descending the stream for twenty-six miles we came to the *Takt Tiridate* (Throne of Tiridates), but it in no way answers to the site of Artaxata, being twenty miles from the river, and owing its strength solely to its fortifications. There now remain no signs of the columns seen by Chardin, nor does stone appear to have been employed in its construction. The walls must have been of great thickness, and the ditch broad and deep. We returned to the mouth of the Zengue, and followed the Aras for twenty-four miles, passing the celebrated monastery of Vedi, but without falling in with the least vestige of ruins. The river winds very much, and at least twenty positions, nearly surrounded by the river, presented themselves. We were now not far from the foot of Mount Ararat. I crossed the river, and had great difficulty in penetrating through the swamps, which extended for five miles; we then began the ascent, and passed great quantities of pumice stone. The ascent soon became rocky and difficult, and at the eighteenth mile we came to the ruins of Khram, a town frequently mentioned in Armenian history. We found nothing to repay our trouble; and on the following day returned to the place from which we had set out. We followed the river through the swamps and rice-fields of Sharoor for sixteen miles, when we reached a dry, barren plain, which continued for seven more, where the river runs through a cluster of low hills. Five miles below this we came to a remarkable bend in the river, at the bottom of which were the ruins of a bridge of Greek or Roman architecture. A high bank, perfectly level at the top, and the sides so regular as to have the appearance of being artificial (it is not so), extends the whole way. Thirty yards from the bridge there still remains a portion of stone wall, with a semicircular arched gate, and two rows of loop-holes; fragments of brick are scattered about, but no other signs of buildings. As a military position, it appeared to me inferior to numbers we had passed, and the space never could have contained even a moderately large city. I have at different times followed the course of the Aras from its entrance into Persia to its junction with the Kur, and can assert, that there are no traces, except these, at all answering to the description of Artaxata, in existence.

Below Abbas Abad, the river flows through a strong defile, and

nearly opposite to the monastery of St. Stephen are the ruins of an old Persian fortress (I believe Araxenæ); five miles farther, at the southern extremity of the defile, is the ancient city of Julfa. The hill fortress of Elanjak, blockaded for seven years by a part of Timour's army, is situated sixteen miles east of Nukshewan, on a stream of the same name. Forty miles below Julfa are the towns of Eglis and Ourdabad, but both distant from the river. The Aras then forces its way through a great chain of mountains. A road has been made which even now scarcely admits of a loaded mule passing on either bank. At the sixteenth mile we passed Megeri on the north, and Curdasht on the south side; the latter is a modern town, but ruined by the Lesgues about forty years ago. From that to the bridge of Khuda Auferrine there is not a ruin of any consequence. The excellent memoir of M. St. Martin on Armenia gives an accurate description of most of the places seen by me.

I now quitted the Araxenæ plain, circumstances at this time appearing favourable for an excursion into the Kurdish districts in the neighbourhood of the lake of Wan. We ascended the banks of the Makoo river, one of whose sources, as before mentioned, comes from the lake near Kara Kulla. The plain was covered with beds of lava, three leagues of which could be distinctly traced. Decomposition is so trifling in Persia that the soil was scanty. The river in many places did not exceed ten feet in breadth, but was deep, and appeared to flow through a crack in the rock. At the twentieth mile we crossed it, over a natural bridge, formed by the lava, under which the river has forced a passage. Twelve miles beyond this, we halted at the village of Azim Kind, near which was a considerable space of land free from stones. The direction of the lava clearly shows it did not come from Ararat. On the following day we continued our route, and as we approached the hills the depth of the lava considerably increased. We reached, at the fifteenth mile, the village of Bilga, situated at the entrance of the valley of Makoo, where we crossed another bridge like the former. (The people say they are very numerous.) The valley is narrow, and the rocks on our right hand presented the singular appearance of a stratum of compact limestone resting on a bed of lava, raised by it to an angle of 45° on the west, and abrupt and shattered to the east. There were several circular recesses, like the craters of small volcanoes, and huge masses of limestone lay scattered about. At the seventeenth mile we reached the town of Makoo, and its gigantic cavern. The whole party were struck with amazement, and instinctively halted, not able to trust our eyes as to the reality of the scene before us. A vast arch, 600 feet high, 1200 feet in span, and 200 feet thick at the top, at once presented itself to our view. This

cavern is 800 feet deep, but, as the sun then shone directly in, the height and breadth alone attracted our attention. At the very bottom of this is a castle inhabited by a chief of the tribe of Biaut; and at the junction of the limestone and lava a number of small caves have been partially excavated, accessible only by a ladder. From one of these a small stream of water trickles down the rock, but the artificial works look, in the vast space of this natural excavation, like ants' nests on a wall. It appears to me that this could only have been formed at the time of some great convulsion of nature. From the breadth of the sheets of lava, I do not think they came from any volcano, but by the sudden rise of a great extent of country. Had a number of small volcanoes at any time existed, the meaning of Azerdijan (country of fire), applied to the whole province, could not be doubtful. The chief was jealous of a close examination of his fortress, and though a ladder for which I applied, to examine an inscription at the western side, was promised, it never came. From the ground I could see that the writing was neither Arabic nor Armenian, and had some appearance of Greek or Roman characters. The palace is a modern structure, but the upper caves have always been in use as places of refuge. There are about 400 houses in the town; some few stand under the rock, but as masses of stone have frequently fallen, the generality are outside, and protected by a low wall; they could easily be destroyed from the top of the rock.

From Maboo we ascended the river. The mountains gradually became higher, and the valley narrower. At three miles there is a strong pass, beyond which the streams from Byazeed unite with another from Awajuk Chalderan, distant fourteen miles. (I have seen the plains of Chalderan, in some maps, laid down on the Aras; these are the only plains of Chalderan.) We then turned to the left, over a rugged, stony mountain road, for six miles, and at the tenth mile reached the convent of St. Thaddeus, one of the largest in Armenia. The climate is exceedingly cold, and the elevation 5400 feet; at night it froze hard, in the beginning of September. The convent had lately been plundered by a cousin of Abbas Mirza, who, much to his credit, had the young man brought to the place and severely bastinadoed, making *himself* full reparation to the monks. The next day's journey was over a rugged country to Zava (a distance of twenty-four miles), in the district of Sokhmanabad, the country abounding in pasture, but totally devoid of trees. We ascended the stream of Sokhmanabad, in the bed of which were some brushwood and willow trees. The ravine forms one of the passes into Turkey; the road was difficult but practicable for artillery. At the eighth mile we passed Malhamloo, a Kurdish village, situated in a recess of the pass. The road

for sixteen miles continues in the same ravine, when we entered the district of Mahmoodeah, forming the frontier between Persia and Turkey. This plain, four miles in breadth, is nearly 6000 feet above the level of the sea, and has a desert and bleak appearance, with the village of Miskar at the entrance of another ravine, descending gradually to Shumsadentoo, a considerable Kurdish district. To Kursat it is six miles: the road is along a fine valley, through which flows the river called Bund-y-mohey, from a fishery at its mouth in the lake of Wan, which it joins after traversing a plain of eight miles. On our right was the lofty mountain of Sepan Daug. We marched along the banks of the lake to Argish, a small fortress, five miles from which are some remarkable rocks, covered with arrow-headed inscriptions. This place is much frequented by pilgrims of all religions. The Mahomedans even consider them sacred, though they allow their date is anterior to the existence of their religion. I sent one of the party to Tidia Wan, by Akhlat, directing them to pass as near the lake as possible, and return by water to Wan; where I proceeded, but the pasha would not allow us to reside in the town, and we encamped at Sha Baug, once a palace of the kings of Persia. Having gained all the information I required, and procured an impression of some of the arrow-headed characters on the rock, I attempted to penetrate, by Wastan, into the Hukkaney country. We passed Semiramis river near the village of Artemick, and from thence proceeded to Wastan, the patrimony and birth-place of Mustapha Khan, chief of that great Kurdish tribe, the Hukkaney. Here we found the country was in too disturbed a state to allow of our proceeding. We returned by the same route, and halted at Ak Yokaush, or the White-pass, distant eight miles from Wan. The lake of Wan is said to be 240 miles in circumference, which, from the sketch I was able to make, is not far from the truth. The water is brackish, but cattle will drink it, particularly near the rivers. The only fish I saw were a small kind of sardinhas, which are salted and exported to all parts of Asia Minor. They are taken in vast quantities in the Bund-y-Mohey and Wastan rivers, and seldom exceed four inches in length. There are two considerable islands, on which have been built Armenian convents. Fourteen vessels are constantly employed in conveying goods from the different towns on its banks, and the lake is said to be of great depth.

I was much struck by the veneration paid by the inhabitants in this neighbourhood to the memory of the Assyrian kings, whose names they have preserved, notwithstanding the introduction of Christianity and Mahomedanism. A fine stream, near Wastan, is called Semiramis; the mountains near Bitlis, Hills of Nimrod; and those near Akklat, Ninus. In the north of Persia (I never

saw at any other place the arrow-headed characters, or heard the names of the kings of Babylon), not far from Talawan, they show some masses of lava, which they call the Tombs, or Petrifications of Nimrod and his children. These places are frequented by Christians, Mahomedans, and Ghebers, with equal veneration, notwithstanding the injunctions of mullas and priests. The banks of the lake, particularly the eastern side, are very mountainous, and partially covered with wood; the soil is fertile, and the pasturage excellent. Eight rivers fall into the lake, but none of them are of great importance. Wan may contain 20,000 inhabitants. Wastan, Bitlis (eight miles distant), Tidiawan, Akhlat, Adaljewas, Ardish, are of much less importance.

I consider it probable that Xenophon may have ascended the Pass of Bitlis; the only objection to which was his not mentioning the lake. The direct road from that town to Moush and Trebizond lies on the other side of the mountains of Nimrod; he, consequently, would never see the lake. After passing Moush he was obliged to cross the high plains, now called Doman from the constant mist with which they are covered. Here he lost his way, from the desertion of the guide, and at last arrived on the banks of the Phasis (the Greek account). The district through which the Aras runs above Kagasman was, and is still, called the Phasin, or Pasin, and the river, by the inhabitants, the Pasin Chie, or river. He then again entered the high road from the north, both to Trebizond and the other cities in Asia Minor.

From Ak Yakoush we marched, by Alekek, twelve miles, leaving a lake of fresh water on our left; and halted at Mulla Hussain, an elevated but fine grass country,—total twenty-four miles. From this to Kasley Gul was twenty miles, where there is a lake of the same name, from which we descended to the ravine of Kotana, six miles, and halted at the town of that name. From this point I sent the baggage, and great part of our servants, direct to Khouy. We ascended the stream, coming from the south, which flows through a fine fertile valley for eight miles; the ascent then becomes exceedingly rapid; and at two miles farther we reached the highest part of the plain of Ali Baug, seldom free from snow, and boiling water gave an elevation of 7500 feet. This may be considered as the source of the Zab, a tributary of the Tigris. The stream up which we came joins the Aras; and another, rising near the same spot, empties itself into the lake of Rhumia. For five miles the country was swampy, with little grass, when we passed the Armenian village of Khanaga (the cold), and for the first time saw the singular mode the inhabitants have of preserving themselves from the attacks of robbers, to which they are constantly exposed. A large tower is constructed on the most elevated spot, round which the houses are built as close as practi-

cable, and the lanes or passages between them are covered over ; all these lead to the foot of the tower, and on the approach of danger a number of riflemen mount, and occupy the gates leading into this covered labyrinth, where it is exceedingly difficult for a stranger to find his way, and thus mount the tower.

As we descended the fine valley of Ali Baug, here six miles in breadth, the country gradually improved ; and at the eleventh mile from Khonia the castles of the Kurdish chiefs crowned every height. At the foot of these their followers had their cottages, and sentinels were constantly on the look out. Six miles farther brought us to the monastery of Derrie, then garrisoned by a party of the Russian battalion in the service of Persia. The Zab now contained a considerable quantity of water, and the country was well cultivated, and forms the most valuable part of the Hukkaney territory. Twelve miles from this, on the western side of the valley, stands the town and fine castle of Ali Baug, the summer residence of Mustapha Khan, but at this time occupied by the Persian troops. The chief himself was in another castle, Erza Atis, whither he invited me to proceed. I now found, from the many objections he stated as to the danger of the road, that he had no inclination to allow me to visit the country of the Chaldean Christians, who are in alliance and nominal dependence on him,—suspecting me of being charged with a message from the Persian government, whose troops at this time occupied part of his country, and had been attempting to bring over that people to their interests. He at last appeared to consent to give me an escort. That night our camp was attacked by a party of his men : we were fully on our guard, and they instantly retired. The Christians informed me there was a plan to cut us off in the pass leading to Julamerck ; and the next day I had an officious offer of assistance. Being fully aware of the infamous character of the chief, I returned to the Persian camp. I accompanied a detachment as far as the frontier town of the Chaldeans ; but finding that, if I proceeded, it would be impossible to return by the same route, but must come back by Amadia and Kermanshaw, six weeks' journey, I reluctantly gave up the expedition. Mr. Schultz, the celebrated German traveller, was subsequently murdered by Mustapha Khan, near this place.

I have frequently conversed with different chiefs and bishops of these people, and seen some of the districts inhabited by them. Mar Simeon, their khalifa, came shortly afterwards into Persia, where he was detained and died. This singular people, who have maintained their existence during all the great revolutions of Asia, consists of 40,000 families, divided into the tribes of Tearce, Tokhabee Bass, Diss, and Jeloo : they are the descendants of the Christians who fled from the persecution of Justinian, and at one

time inhabited the whole country from Rhumia to Bitlis ; but the body of the people have now taken refuge in the impregnable fastnesses of the Jidda Daug, governed by a hereditary priest, descended from Mar Simeon, the bishop of Amadia, who led their emigration. He, as a priest, could not have a family, but the descendants of his brother's children, some of whom are always brought up as monks, have invariably succeeded. In their churches no images are allowed, nor pictures of saints ; the fasts are neither so strict nor so numerous as those of the Armenian and Greek church ; and, as far as I could observe, the people are simple, brave, and virtuous,—far superior in character to the other Christians in Asia. They are said to be remarkable for their want of intelligence,—to me they appeared stupid. Timour, after the capture of Wan, attempted to penetrate into their country, but desisted after great loss, and was equally unsuccessful in another attempt, made from the side of Amadia. The Turks have had no better success. They allow no Mahomedans to enter their country, and frequent markets where they carry on trade with the surrounding states. I never saw a country so cut by deep and difficult ravines, over which they have bridges composed of two trees joined together and slung at one end ; guards are placed at every passage, and signal posts, to call the people together in case of danger. They possess mines of lead, copper, and iron, which they work with great skill. The sides of the rocks have been rendered productive by terrace walls, constructed with great labour. In many places the mountains are covered with trees ; cedars grow to a great size, and the oaks produce gall-nuts,—arsenic is found in abundance. They consider the Syrian Christians of the Malabar coast as a branch of their nation, and hold occasional communication with them ; besides these there are a considerable number scattered through Persia and Kurdistan, but all pay a small tribute to Mar Simeon, 1s. 6d. a family.

I did not approach near enough to ascertain the height of the Jidda Daug, but from the snow with which they are covered all the year round a considerable way down, I conclude that they are as high as the most lofty peaks of the Caucasus.

I was present at a council of the chiefs of the Hukkaneyns, and never saw a set of men who had so totally lost all sense of shame : they had no hesitation in confessing themselves liars, cowards, and assassins ; and never pretended to possess one particle of probity. They were assembled to decide regarding their conduct towards Persia, at the same time carrying on individually intrigues with them, and at night proposing to their chief a secret attack. This, however, their cowardice effectually prevented. The pass leading along the Zab is even stronger than the most difficult part of the Caucasus, and extends nearly sixteen

miles : it answers the description given of it by the guides of Xenophon ; no army could force a passage, and it is difficult even for a single horse. I was obliged to make the guide given me by Mustapha Khan prisoner to conceal my intention of crossing the mountains to Rhumia ; he sent a party of horse to intercept us, but I had been joined by a party on the road of which he was not aware. In the skirmish that ensued some of his men were killed. Though we passed over an elevation of 9000 feet (the mountains of Moor), where the snow lay on the ground, the road was good, and the mountains covered with pasture. The twenty-fourth mile brought us into the bed of the Charey river, flowing into the lake of Rhumia, down which we proceeded for eight miles ; we then turned over another high range of hills into the district of Soomie, dependent on Rhumia ;—the total distance to-day was forty miles. Near the village of Soomie are the remains of three fire-temples, of the most ancient description, formed of large rough stones. From this it is forty miles to Rhumia, over an even and highly cultivated country.

The city of Rhumia is eleven miles from the great lake of Shahey, an exact survey of which I made during the several years I was stationed at Tabrez ; and on this occasion I had an opportunity of visiting the islands which it contains. Bezou, a mountain situated to the east of Rhumia, where the boats generally lie (there are only two), the water being there rather deeper than on the other parts of the shore, is supposed to have been the place frequented by Zoroaster before he propagated his religion. It is about 500 feet in height, composed of a soft red sandstone. Half way up there is an imperfect cave or cell, which must have afforded very insufficient protection against the east wind, being inclosed only by a few loose stones. In a little valley below are a few trees, still preserved by the people, and a small spring of water. It is much frequented by pilgrims, both Mahomedan and Ghebers—even some Indians have occasionally come there. The Mahomedans have traced some Arabic characters on the stone, to which they ascribe supernatural agency. In clearing away some stones near the spring we discovered a pot, containing ashes and some fragments of bones, a string of glass beads, and a mass of some metal. Unfortunately the urn was broken in digging, but the fragments exactly resembled those found at Bushui and near Babylon.

The craft prepared for our voyage had a most unpromising appearance, being shaped much like a trunk, perfectly flat, and, though of considerable size, drawing only fourteen inches water ; it could, however, only sail directly before the wind, nor be rowed more than two miles per hour. It was capable of carrying about fifty tons. We embarked, altogether twelve persons, and a

fair wind springing up, we got under weigh. A steady but light breeze carried us to a cluster of islands, from which the principal part of the fire-wood used in Rhumia and Tabrez is brought. The distance was sixteen miles, and we ran it in five hours. The lake, for the first two miles, had only three feet water, the bottom a perfectly smooth, hard, blue clay; it then suddenly deepened to five feet for nearly the same distance, when it again deepened to eight: these alterations took place in steps, and at once the next increase was to twelve, subsequently to eighteen and twenty-two, the greatest depth we found. This continued to within a few yards of the Sheep Islands (Coin Adasay), so called from a number being transported there for pasture in winter. This cluster is composed of three large islands and five small ones: Horse Island is the largest and most fertile; a considerable village once existed on it, but its only supply of water is from tanks, there not being a single spring on it; the soil is excellent, and here the largest trees are found. Sheep Island is about the same length (five miles), but seldom more than one and a half in breadth; it is for the most part composed of a fine, compact, but bare limestone, in which flints are sometimes found. Here there is a small spring of water, and a cistern has been dug to receive the rain water; it was at that time full, and we found in it three dead partridges, who had been drowned in attempting to drink. There is some good land, and some wood is still to be found. Ispera is not more than one and a half mile in length; it has more soil, but no water. There are at present no animals on Sheep Island, except an ass, turned loose some years ago, from which the island is sometimes called Ass Island; the sheep are always taken away in the summer. Our boat sometimes carried away as many as 200 at a time. To the south of these islands is another cluster of nine rocks of twenty or thirty feet elevation; wood is also found upon them, but they are of no other importance. The whole number in the lake is said to be fifty-six. It now depended entirely on the wind at what part of the lake we might land; a breeze springing up from the east we were in hopes of regaining nearly the place we started from. The wind changed to the south, which, in the night, took us as far as Gougerchene Kulla (off Salmas). Here I landed, and found forty-five feet water on rounding the head of that impregnable fortress, near which, I was informed, is the deepest part of the lake. This fortress is natural, being sometimes an island, with an abrupt precipice to the land, and sloping to within thirty feet of the lake, where the face becomes also perpendicular. A road to render it accessible, and a gate, are the only artificial works. In the limestone I remarked large oyster shells, none of which fish now exist in the Caspian. There are reservoirs for water, and a small dip of water near the lake.

We were now thirty-four miles from our horses, but fortunately a north wind took us down towards the evening, and I determined not again to try a voyage on this water.

We returned by the usual route to Ali Sha, a village twenty-four miles from Tabrez, to which I sent my luggage, and crossed a dry salt plain, as level as the sea, to the peninsula of Shahey, which is sometimes an island,—in fact, is so at present, if three inches of water constitute it, that depth extending round it. This mass of rocks is forty miles in circumference, and has twelve well inhabited villages. There are here two fortresses, one nearly as strong as Gougerchene Kulla, and called by the same name,—it dates from the time of the followers of Zoroaster. This lake is subject to great variations in its depth and extent: when I first saw it, in 1812, a smooth stone, on which I stood, was washed by the water, which is now ten feet lower. The people give the same account, as of the Caspian, of these changes taking place at intervals of thirty years; of that I can say nothing. They also state that, when at its lowest, the increase is not gradual, but takes place in a few months, from causes totally distinct from rain or the water it receives from the rivers. A number of springs are seen to throw up water, as well in the lake as on the ground abandoned by it, which continue to flow till the lake reaches its former level. They showed me some holes, and mounds of clean sand, like that round about springs; but regarding this improbable story I have no observation to make. To me the cause of its decrease was evident. During the time I was in Persia cultivation had much increased, and almost all the water which formerly ran into the lake was taken away for irrigation; only in the spring, when the melting of the snows furnishes a vast supply, did any reach the lake. The water is so salt that no fish can exist in it; the experiments I made showed that it contained nearly twice as much salt as the sea; it is so buoyant that you can with difficulty stand in three feet water, and actually float on the surface. In shoals not agitated by the wind the water forms almost a paste of salt, which dissolves when strongly agitated.

My immediate departure for India will, I trust, afford a sufficient excuse for the hasty and imperfect description of the country which I have now ventured to offer to the Society. I have only given those routes unfrequented by other travellers, though I have travelled over every part of Azerdbijan. Merand has been described as the ancient Moranda; the ruins of that town are only to be traced eleven miles to the west of Mehrande. I subjoin a table of latitudes and longitudes, observed while I was in the country: and have also furnished the Society with some others of weather and temperature of Tabrez, during my residence in that city.

W. M.

LATITUDES and LONGITUDES observed in AZERBEIJAN and surrounding Countries by Lieut.-Col. MONTEITH of the Madras Engineers.

Names of Places.	Longitude.	Latitude.	Remarks.	
Ark of Tabreez	46° 8' 30'	38° 3' 59'	Means of a number of observations.	
Vill. of Ali Shah		38 8 10		
Vill. of Sofian		38 17 00		
(Town) Tasutch	45 13 7	38 19 14	The long. by chronometer going and returning.	
Their Salmas. Town		38 9 24		
Khoey. City		38 31 33	Means of seven meridian altitudes.	
Karra Ama.		39 3 53		
Church of Anajuk in Chalderan		39 17 14		
Churse (village).....		38 49 40		
Mehrand. Town		38 26 5		
Julfa Rd. Bridge		38 54 30		
Imekshewan City, old		39 11 40		
Sharrow (vill.) Do. Dinga		39 32 7		
Derebloo.....		39 46 58		
Erivan (city).....		48 9 30	Ten meridian altitudes of the ☉	
N. extremity of the lake of Levan		40 37 15		
The Island and Monastery.....		40 30 30		
S. extremity of the Lake		40 9 40		
Taloon.....		40 16 41		
Tiflis	45 16 45	41 42 30		Five eclipses of the 1st and 2nd satellites of Jupiter.
Contais in Immerettia		42 14 28		
Mouth of the Kalla River—Black Sea	41 35 30	42 14 56		Several observations differ 3' in longitude from the French observation. This may be taken as the mouths of the Phasis in longitude.
Berda Rd.—City in Kara Bang.....		40 18 00		
Oslandoose		39 22 5		
Shoor Bullak on Mts. of Khoovosloo		39 7 9		
Dade Bagloo of Mishkeen		38 31 00		
Ardabil		38 10 20		
Lissan. Rd.—Fort on the Caspian Sea		37 53 19		
Enselli ditto		37 25 28		
Resht (city)	49 26 40	37 18 00	The observations for the longitude not proving satisfactory, 3° 18' 10" east of Tabreez, by Mr. Frazer, 49° 42' 53" by the Russians, 46° 27' 30" Lunar Observ.	
Lankeran		38 40 00		
Lahijan (town)		37 10 45		
Mosalla (vill.).....		37 23 21		
Kherez		37 36 00		
Sha Ballak on Mts. of Midan.....		37 36 1		
Miana (vill.).....		37 22 30		
Trokemanchie Oudjan		37 32 25		
Onrdabad (town) on the river Aras		39 0 0		
Megevi ditto		38 55 30		
Ali Deora		38 54 00	Five meridian altitudes.	
Ahev (town).....		38 28 30		
Dakhergan (town).....		37 45 10		
Maraga (city).....		37 19 50		
Merhummet Abad.....		36 54 58		
Sier Kalla.....		36 38 59		
Karra Batta (vill.).....		37 1 26		
Blunina (city)		37 32 40		
Saldug. Tuza Balla		36 56 32		
Sareskend (vill.).....		37 26 5		
Saltarra		36 25 37	} Kurdistan.	
Dervie Monastery in All Bang		38 8 16		
Arzaatis (castle)		37 51 30		
Bash Kalla (castle).....		38 2 1		
Erzeroom (Asia Minor)		39 55 12		
Trebezond (city on the Black Sea) French Consul's House }	39 44 52	41 0 0		

The latitudes are all deduced from the means of several altitudes, either of the sun or stars. The longitude by Lunar Observations at Resht, the capital of Ghilan, gave 49° 42' 53", according to Mr. Frazer, an excellent observer. The Russian men-of-war make Enzelli 49° 22' 48", which agrees with the 3° 18' 10" east of Tabreez, deduced from the trigonometrical survey.

ABSTRACT of the METEOROLOGICAL REGISTER kept at TABREZ by Col. MONTEITH, reduced from the Originals in the Society's Possession.

Date.	Mean of Fahrenheit.			Extremes of Fahrenheit.			Prevalent Winds and Weather.
	Morn.	Noon.	Even.	Morn.	Noon.	Night.	
1818.	°	°	°	°	°	°	
January ...	13·3	33·5	21·0	7 to 30	18 to 46	5 to 35	E. and E.N.E. Cloudy, with snow.
February ..	8·2	24·3	11·8	6 .. 25	17 .. 38	1 .. 27	E. by N. On the 16th the greatest cold.
March	28·5	46·8	32·7	7 .. 41	34 .. 62	18 .. 41	W.S.W. and E.N.E. Variable, with rain.
1824.							
December ..	43·8	60·5	46·3	32 .. 59	54 .. 68	36 .. 57	E. and S. W. Fine, with rain.
1825.							
January ...	38·7	48·9	37·9	30 .. 48	41 .. 57	34 .. 45	E. Variable weather, with snow.
February ..	40·3	49·8	40·8	32 .. 50	36 .. 66	32 .. 52	W.N.W. and S.W. Fresh gales, with snow.
1829.							
January ...	23·0	35·4	26·0	3 .. 35	22 .. 44	10 .. 38	E. and S.S.E. High winds, with snow.
February ..	21·9	36·3	25·6	12 .. 30	31 .. 52	20 .. 34	E., S.E., and S.S.W. Variable, with snow.
March	34·3	52·6	39·1	27 .. 41	40 .. 67	30 .. 52	E.S.E. Variable, with rain.

March, 1818. The barometer at Tabrez was 25·1 inches, and the temperature of water, in a well 72 feet deep, was 58°.